NEWSLETTER

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Army Transformation Taking Shape...

Interim I

Brigade B

Combat C

Team T

Tactics, Techniques and Procedures

CENTER FOR ARMY LESSONS LEARNED (CALL)
U. S. ARMY TRAINING AND DOCTRINE COMMAND (TRADOC)
FORT LEAVENWORTH, KS 66027-1350

FOREWORD

This newsletter is the first CALL publication introducing tactics, techniques, and procedures (TTP) and lessons learned by the first Interim Brigade Combat Team (IBCT) at Fort Lewis, WA. Since the design concepts and capabilities of the IBCT may be unfamiliar to many, the newsletter begins with an overview of the IBCT Organizational and Operational (O&O) concept as previously published in ***Military Review*** (September-October 2000). Analysts from CALL wrote the remaining articles, which cover TTPs and lessons learned collected since the IBCT's inception and initial training period.

The information contained in the newsletter was collected during the execution of various training events including the Senior Leader's Course at Fort Leavenworth, KS, digital systems new equipment training (NET), the Tactical Leader's Course and leader vignette training conducted at Fort Lewis, WA, and a recent field training exercise (FTX) in Yakima, WA. Topics covered include adaptive leadership and its role within the brigade, digital training, sustainment training, multidimensional reconnaissance, and the employment of unmanned aerial vehicles (UAVs) in the IBCT. Observations of these areas were gathered against a collection plan focused on specific issues relevant to transformation within the IBCT, with emphasis on training and digital systems integration.

CALL thanks the soldiers and leaders of the IBCT for allowing access to their training events, and thanks the BCC personnel for sharing their insights and experiences. The information contained in this publication is provided for your use and dissemination. If your unit has identified other relevant lessons learned or information, share them with the rest of the Army by contacting CALL at (913) 684-2255/3035, FAX (913) 684-9564, or DSN prefix 552. The e-mail address for CALL is <call@leavenworth.army.mil>.

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Lessons Learned

Interim Brigade Combat Team (IBCT)

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Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

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Vanguard of the Objective Force

by Colonel Michael Mehaffey, U.S. Army, Director, Battle Lab Integration and Technology Directorate, Office of the Deputy Chief of Staff for Combat Developments, TRADOC

Since the end of the Cold War, the U.S. Army has repeatedly proven its value to the nation through adaptive crisis-response in Southwest Asia, Africa, Central America and Southern Europe. Indeed, in virtually every contingency since 1989, landpower has proven essential to lasting decision. However, the high frequency of joint contingency operations in the 1990s—a frequency expected to continue and perhaps rise during the 21st century—has sharply increased the significance of strategic responsiveness. Clearly, U.S. Army forces are increasingly important to a joint force that can rapidly deploy to prevent, contain, stabilize or terminate a conflict in its early stages.

In response to this new operational environment, Secretary of the Army Louis Caldera and U.S. Army Chief of Staff Eric K. Shinseki formulated a new Army Vision in October 1999 to build a strategically responsive landpower force capable of dominance across the full spectrum of operations. The Army will implement the vision using three-stage transformation campaign over the next 10 to 20 years, leading to an objective force that will incorporate revolutionary improvements.

The Army's transformation campaign plan is the most challenging and significant effort to change the Army in more than a century. The interim brigade combat teams (IBCTs) now under development have been characterized as the vanguard of that future force.

Why the IBCT and Why Now?

Although the U.S. Army is capable of full-spectrum dominance, its organization and force structure are not optimized for strategic responsiveness. Army light forces—the best in the world—can deploy within days but lack the lethality, mobility and staying power necessary to assure decision. On the other hand, Army mechanized forces possess unmatched lethality and staying power but require too much time to deploy. The Army's 21st-century responsibility for effective strategic responsiveness demands rapidly deployable combined arms forces that exploit information and human potential and combine advantages of both light and mechanized forces. Meeting this immediate requirement and providing warfighting commanders with an important new option for decisive contingency response is the central near-term objective of the Army's decision to develop full-spectrum medium-weight brigades—the interim brigade combat teams (IBCTs). The IBCTs, operating within division structures, will provide a complementary capability to our current light and mechanized forces, serving as a bridging force until science and technology allow the U.S. Army to achieve objective force capabilities.

The Army is rapidly and nearly simultaneously developing two initial brigade combat teams using two existing brigades, one heavy and one light, at Fort Lewis, WA. The accelerated development of these brigades has jump-started the implementation of the Army transformation strategy. In fact, as the vanguard of the objective force, these IBCTs also incorporate many innovative concepts that will be fully operational within the objective force:

- **Commander- and execution-centric command and control environment.**
- **Networked operations.**
- **Multifunctional soldiers, leaders and staffs.**
- **Effects-based planning.**
- **Execution-focused, distribution-based sustainment.**
- **Flattened hierarchies and integrated headquarters.**

Mission of the Interim Brigade Combat Team

The IBCT has been designed as a full-spectrum, early-entry combat force. The brigade has utility, confirmed through extensive analysis, in all operational environments, against all projected future threats, but it is optimized primarily for employment in smaller scale contingencies (SSC) in complex and urban terrain, confronting low-end and mid-range threats that may employ both conventional and asymmetric capabilities. Under the command and control of a division fully integrated within the joint contingency force, the IBCT will deploy rapidly, execute early entry and conduct effective combat operations immediately on arrival to prevent, contain, stabilize or resolve a conflict. The IBCT conducts operations in major theater war (MTW) as a subordinate maneuver component within a division or corps, in a variety of possible roles. During military operations other than war (MOOTW), the IBCT conducts operations as an initial entry force or guarantor force to provide security for stability forces. (See Figure 1.)

IBCT Overview

The IBCT is a divisional brigade that will normally fight as the first-to-deploy brigade under a division headquarters. Preconfigured in ready-to-fight combined arms packages, the entire IBCT is intended to deploy within 96 hours of "first aircraft wheels up" and begin operations immediately upon arrival at the aerial port of debarkation. The brigade cannot conduct forced entry, but it provides the joint force commander an improved capability to arrive immediately behind forced entry forces and begin operations to shape the battlespace and expedite decision.

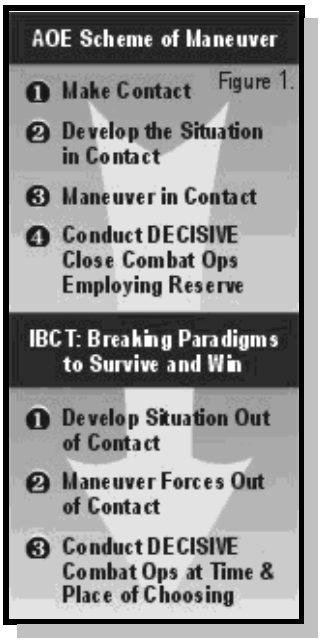

Figure 1.

The major fighting components of the IBCT are three motorized combined arms infantry battalions, supported by additional organic combat, combat support and combat service support organizations. As much as possible, units are equipped from commercial off-the-shelf and government off-the-shelf equipment to accelerate development and reduce costs. To meet its demanding deployment threshold, the brigade's design capitalizes on the widespread use of common vehicular platforms, including highly-mobile, medium-weight interim armored vehicles (IAVs), coupled with minimized personnel and logistic footprints in theater.

As a full-spectrum combat force, the brigade typically maintains an offensive orientation. However, depending on the nature and evolution of the contingency, the IBCT is capable of conducting all major doctrinal operations: offense, defense,

stability and support. Its core operational capabilities rest upon excellent operational and tactical mobility, digitization-based situational understanding, combined arms integration down to company level, and high dismounted infantry strengths for close combat in urban and complex terrain. Properly integrated and networked, these core capabilities enhance force effectiveness and compensate for any platform limitations in the close fight.

Organizational Concept

Despite its innovative aspects, the IBCT has not emerged as a freestanding concept. Army operational experience and experimentation during the 1990s and current technology support the concept of smaller, more capable organizations that exploit the power of information, networked systems, improved communications and refined tactics, techniques and procedures (TTP).

Multiple schools and centers within the Training and Doctrine Command (TRADOC), led by the TRADOC Analysis Center (TRAC), have engaged in comprehensive, continual analysis to inform decisions about the IBCT organization and operations. Based on mission analysis of the operational environment in which the IBCT would most likely be employed, TRAC and other centers employed a Serbia/Balkans case scenario to support analysis. Other geographic regions (Southwest Asia, Northeast Asia) were investigated and permutations within scenarios regarding the nature of the force, the threat, the nature of the contingency and other operationally significant factors were pursued. Investigators employed a wide range of methodologies, models and simulations, including JANUS, modular semi-automated forces, Fire Simulation XXI and others. An enormous number of insights and potential applications emerged from this effort, which informed multiple iterations of the IBCT concept and established a basis for initial and subsequent design decisions.

Key Design Parameters. The critical element in producing the optimum organization for the interim brigade combat team is the requirement to achieve balance in two primary areas. First, the IBCT design must balance requirements for strategic responsiveness with capabilities for battlespace dominance. This calculus requires the organizational scheme to balance deployability, sustainability and the IBCT's in-theater personnel footprint against its combat requirements for lethality, mobility and survivability. (See Figure 2.) In essence, the brigade must achieve the deployability standards of a light force while arriving with the punch and staying power approaching that of a mechanized formation.

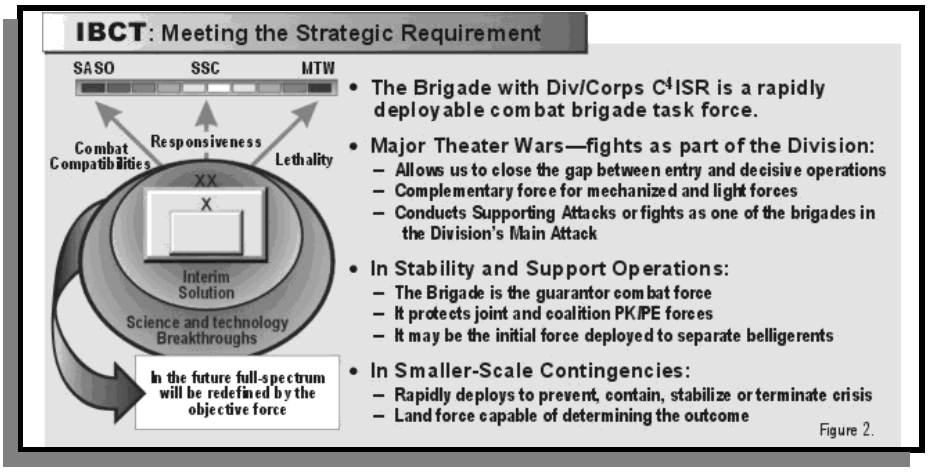

Figure 2.

Second, the organization must provide balanced full-spectrum utility. Although the brigade is deliberately optimized for early-entry operations in SSCs, mission analysis also requires it to be prepared to participate in MOOTW to permit peacekeeping and stability forces to carry out their missions in a secure environment. Similarly, the IBCT must be prepared to fight as a component within a division or corps structure in major theater war. In these roles, the IBCT is designed to be suitably augmented to compensate for recognized, specific shortfalls in its capabilities for fires and effects, aviation operations, countermobility, command and control (C^2), communications and force protection. The organization includes the command, control and communications (C^3) "hooks" for rapid integration of additional capabilities for operations outside the scope of SSCs.

Analysis indicates further that the IBCT is more effective if its capabilities are embedded within the unit's organic organization, rather than employing the traditional division-slice approach. Therefore, the IBCT design includes embedded unit-based capabilities—military intelligence, signal, engineer, antitank, artillery and CSS elements—that have been tailored specifically to the unique requirements of the unit's mission set. This approach also provides the organizational basis and organic relationships necessary for the brigade to achieve a higher level of training for its mission set, enabling it to execute an effective train-alert-deploy paradigm instead of the alert-train-deploy cycle that has recently characterized Army contingency response. The organic structure further maximizes the human potential within the brigade, strengthening unit cohesion and providing the foundation for developing soldiers, leaders and staffs who can perform multiple functions.

Similarly, although traditional combined arms task organization occurs at battalion level and higher, extensive analysis for the IBCT indicates that, within the environment of urban and complex terrain, force effectiveness is best enhanced through internetted combined arms capabilities to company team level. The organization described below fully embraces this conclusion.

Key Operational Capabilities. For the brigade to operate successfully as a full spectrum force, the following key operational capabilities and characteristics must be reflected in its organizational design. The first two capabilities—mobility and dismounted assault-centric close combat—are the IBCT's most distinctive qualities.

Mobility. The IBCT requires high mobility at all three levels of operations. Strategically, it must be organized, equipped and configured to meet its 96-hour deployment standard. At the operational level, the IBCT must be capable of intratheater deployment by ground, sea or C-130 air transport so the joint force commander can exploit opportunities and hedge against uncertainty. The IBCT also requires 100-percent tactical mobility to strike the enemy in depth, reposition its reserve rapidly, secure lines of communication in uncertain conditions and conduct noncontiguous platoon, company and battalion operations in urban and complex terrain.

Dismounted Assault and the Close Fight. Given its likely operational environment, the IBCT achieves tactical decision through combined arms action at the company level focused on dismounted assault, enabled by direct fires from organic IAV-based combat platforms, and the integration of mortars, artillery, mobility support, and joint fires and effects. Combined arms companies directly link infantrymen and supporting weapons to produce a very responsive "point-and-shoot" capability that permits successful engagement of fleeting targets in complex, urban and compartmented terrain. Dismounted infantry can also improve survivability of the unit's platforms by allowing them to achieve standoff and avoid man-portable antitank fires.

Enhanced Situational Understanding (SU). Situational understanding is the fundamental force enabler across all IBCT battlefield operating systems and the foundation for risk mitigation with respect to its vulnerabilities, particularly the lack of substantial armor protection. The brigade employs an integrated suite of intelligence, reconnaissance and surveillance (ISR) capabilities and digitized battle command systems to develop and disseminate a common operational picture throughout the force, achieving SU as the commander applies judgment and experience. The reconnaissance, surveillance and target acquisition (RSTA) squadron is the organization primarily responsible for providing combat information to build the knowledge base necessary to achieve SU. Situational understanding and information superiority enable the force to avoid surprise, develop rapid decisions, control the time and place for combat, conduct precision maneuver, shape the battlespace with precision fires and effects, and achieve decisive outcomes.

Lethality. Given the IBCT's combat mission, the brigade must possess a robust array of direct and indirect fire systems adequate to shape the battlespace and achieve decision in the close fight. Mortars are embedded to company level to enhance responsiveness and facilitate noncontiguous, distributed operations. A limited antitank capability within the IBCT is required to deal with the possible presence of enemy mechanized forces within the area of operations (AO). Force effectiveness requires fire systems that are mobile, fully integrated, internetted and mutually supportive within the IBCT concept of operations. The primary lethal systems within the interim brigade combat team include:

- **Mobile gun systems.**
- **Tube-launched, optically-tracked, wire-guided (TOW) 2B antitank guided missiles.**
- **Javelin antitank missiles.**
- **120mm, 81mm and 60mm mortars.**
- **155mm cannon artillery.**

The high mobility of these systems sharply increases their effective use in combat operations, generating greater combat power than light forces of comparable size.

Holistic Force Protection and Survivability. As a force equipped with medium-weight armored and thin-skinned vehicles, the brigade faces the challenge of achieving an adequate level of force protection and survivability against enemy fires without significant passive protection. Overall, the IBCT must meet its force protection challenges through the holistic application of a variety of capabilities including early warning, situational understanding, the avoidance of surprise, deception, rapid mobility, signature control, nontemplatable operations, avoidance of enemy fires, mutual support, use of cover and concealment, and the implementation of innovative TTP.

Force Effectiveness. The IBCT will offset the limitations of its IAV-based platforms through the integration of other capabilities, particularly the internetted actions of the combined arms company teams. Force effectiveness is further enhanced through the use of common platforms, shared SU, rigorous combined arms training, and multifunctional soldiers and capable leaders. (See Figure 3.)

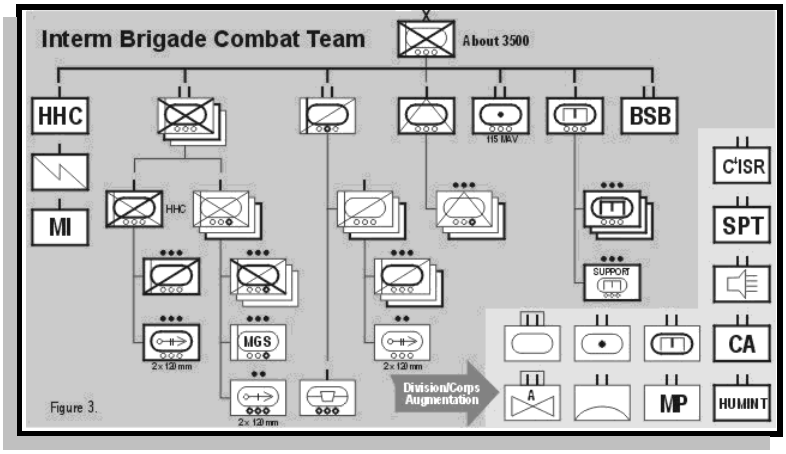

Figure 3.

Reachback. Reachback enables the brigade to exploit a multitude of nonorganic resources to accomplish its assigned missions. The IBCT executes reachback routinely and deliberately in five primary areas: fires and effects, intelligence and information, planning and analysis, force protection, and sustainment. Reachback permits the IBCT to reduce its footprint in the AO without compromising its ability to accomplish its assigned mission. Reachback is executed primarily through the division headquarters, although the employing headquarters may authorize direct linkages between the IBCT and resource providers.

IBCT Organizational Components and Unique Capabilities

Given its orientation on urban terrain and its core capabilities of high tactical mobility and dismounted assault, the IBCT is organized primarily as a combined arms organization, including:

● ***Three Infantry Battalions.*** These motorized, combined arms infantry battalions are the primary maneuver elements within the IBCT. Within the battalions, snipers, mobile gun systems, mortars, Striker-equipped fire support teams and reconnaissance elements provide the appropriate systems required for combined arms integration vital to support dismounted operations by squads, platoons and companies.

● ***The RSTA Squadron.*** The RSTA squadron was developed to satisfy a set of unique operational requirements. As one of the IBCT's primary sources of combat information, the squadron supports situational understanding, empowering the IBCT to anticipate, forestall and dominate threats, ensuring mission accomplishment through freedom of maneuver and decisive action. Moving beyond traditional reconnaissance that focuses primarily on enemy forces, the squadron will see, know and understand the operational environment in detail. The RSTA squadron includes three reconnaissance troops and a surveillance troop. The surveillance troop is comprised of an unmanned aerial vehicle platoon, a ground sensor platoon, and a nuclear, biological, chemical reconnaissance platoon. Overall, the squadron can continuously and simultaneously reconnoiter nine routes or conduct surveillance of 18 designated areas. The squadron operates by stealth throughout the entire AO and employs human intelligence (HUMINT) and counterintelligence experts to compensate for shortfalls in sensors that are more suited for open terrain and force-based information.

● ***The Antitank (AT) Company.*** The AT company comprises the IBCT's primary stand-off antitank capability. The company increases IBCT flexibility and improves its survivability, particularly in open terrain. The company consists of three platoons, each with three long-range, fire-and-forget, TOW 2B systems mounted on IAVs.

● ***The Field Artillery Battalion.*** Because the IBCT is highly vulnerable to artillery casualties, the artillery battalion, while still required to provide supporting fires, focuses sharply on responsive, proactive counterbattery fires. The fire-support organization optimized for combat effectiveness would include a mix of cannon and rocket artillery, but that mix does not meet the IBCT's deployment and sustainment profiles. The initial brigades will be equipped with the M198 (155mm towed howitzer) while the Army pursues the development of an IAV-based, 155mm system for the interim force.

● ***The Engineer Company.*** Given the significance of tactical mobility to successful operations, the engineer company is optimized for mobility support. Issues connected with span of control and the complexity of its tasks dictate that the company be organized as a brigade-level asset.

● ***The Signal Company.*** The IBCT signal company provides the strong C^4ISR[1] network required to support distributed operations within urban and complex terrain across potentially significant distances, as well as the linkages required for effective communications with the division or higher echelons. Considerably smaller than what would be provided from a division, the company supports and provides depth to the brigade S6.

● ***The Military Intelligence (MI) Company.*** The MI company essentially operates as an extension of the brigade S2 to manage ISR collection assets. It provides analysis to support the development of the IBCT common operational picture (COP), targeting and effects, and intelligence preparation of the battlefield. The company has the organic systems necessary to interface with ISR systems at the division, Army Forces, joint, theater and national levels and supports the tactical HUMINT activities required in the SSC environment.

● ***The Brigade Support Battalion (BSB).*** The BSB is designed to perform execution-focused, distribution-based, centralized logistic functions. Its effectiveness depends on the advances in combat service support (CSS) C^2, enhanced CSS situational understanding and regionally available resources from joint, multinational, and host nation or contract sources. The small size of the BSB minimizes the logistic footprint in the IBCT AO.

The IBCT organization consciously excludes other unit-based capabilities often provided in a division slice such as aviation, air and missile defense, combat and construction engineers and military police. If the contingency environment requires these capabilities, they will be mission-tailored to the IBCT in augmentation packages.

Operations. The IBCT is specifically designed to operate in accordance with emerging warfighting concepts. In particular, the IBCT is designed to conduct distributed operations across the depth and breadth of the AO, against both traditional and asymmetric adversaries. Against a traditional (conventional) enemy, IBCT capabilities for early entry and exploitation of joint effects coordinated through the division considerably enhance its ability to shape the battlespace. The IBCT can conduct feints, demonstrations, offensive information operations, extended reconnaissance, and integrated maneuver and shaping fires. It can neutralize or destroy critical combat, C^4ISR and logistic elements of the enemy force; deny the enemy's use of key terrain or resources; and prevent the enemy from achieving initial objectives or setting conditions favorable to his plans. When employed within its optimal SSC environment, IBCT-shaping operations can transition quickly to decisive operations although the brigade may often require reinforcement by follow-on forces.

When confronting a nonconforming, asymmetric adversary, IBCT-shaping operations assume a broader nature for a variety of reasons. First, centers of gravity and decisive points for asymmetric adversaries are more difficult to determine. In many situations, military capabilities will not constitute the primary vulnerabilities or best means of influencing the enemy. As a result, the traditional approach of employing lethal effects to degrade or destroy specific enemy capabilities is not sufficient to shape the battlespace and affect the enemy's will.

[1] Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance.

Dealing with nontraditional adversaries places significantly greater responsibilities on the brigade commander and staff to integrate a variety of military and nonmilitary activities at the tactical level. This integration has two goals: first, to divine the enemy's patterns of operations, critical vulnerabilities and decisive points; second, to apply the right combinations of force to affect his perspectives, change his behavior and degrade his will to fight. Both goals are equally important, since action that is not informed by an accurate understanding of the enemy's vulnerabilities will not achieve the effects desired by the commander.

The RSTA squadron plays a central role in developing the situational understanding required in this complex environment. In addition, certain brigade staff sections—public affairs, staff judge advocate, psychological operations and information operations—fulfill particularly important responsibilities with respect to planning, preparing, executing and assessing the effects necessary for success.

The common operational picture developed within the IBCT must be expanded to include a comprehensive grasp of international, regional and local factors that affect friendly and enemy actions. The common picture must also reflect extraordinary understanding of the nontraditional adversary—his objectives, options for actions, inclinations and vulnerabilities—to determine the best means of influencing his will and behavior. The IBCT must continuously "take the temperature" of the asymmetric adversary by frequently assessing the effects achieved within the AO. Over time, these efforts will reduce uncertainty and enable the IBCT to improvise and adjust continually.

Commander and Execution Centric C² Environment. Understanding the C^2 environment in which the brigade will operate is critical to understanding its employment and tactical style. The IBCT's unique, evolving, commander- and execution-centric C^2 environment builds on lessons learned during Force XXI experimentation. The IBCT commander and staff will execute a significantly new approach to directing and managing operations. Advances in information technologies embedded in the brigade headquarters, coupled with substantial streamlining of the military decision-making process (MDMP) and the proficiencies of the brigade's multifunctional staff promise to shift focus more solidly to the commander's requirements (vice staff requirements) and personal command style. Specific features and products of this evolution include the following characteristics:

- **Near real-time information updates from organic and external sources will support continuous assessment and early rapid dissemination of command decisions and informed adjustment to plans, orders and ongoing operations.**
- **Multiechelon collaborative planning, based on the IBCT COP, will streamline the MDMP and provide additional planning and preparation time to subordinate elements.**
- **Commander's critical information requirements will be more easily and frequently updated, based on better information.**
- **Command and staff energy will be expended less on understanding the present and focused more on anticipating the future and executing a continuously updated plan.**
- **The plan, prepare, execute, and assess phases of the operations process will merge, creating a relatively seamless transition between current and future operations.**

To support this C^2 environment, IBCT elements will be equipped with appropriate Army Battle Command System (ABCS) or ABCS-like systems such as the All-Source Analysis System, Maneuver Control System, Advanced Field Artillery Tactical Data System, Combat Service Support Control System and Force XXI Battle Command Brigade and Below down to platform level. The IBCT C^4ISR networks and computers will have the rapid capability to receive and disseminate large volumes of voice and video data internally as well as externally to adjacent, higher, joint and allied units in all terrain and weather conditions. Long-range, non-line-of-sight tactical communication systems will be the principal means of connectivity for the command group, main command post and the brigade logistic support center.

IBCT Tactical Operations

The IBCT has a pronounced offensive orientation. Its key operational capabilities are deliberately designed to enhance its offensive power, with clear benefits for deterrence, conflict prevention, containment or conflict resolution. Nevertheless, the IBCT may be required to assume the defense temporarily in an SSC. In addition, some elements of the IBCT may assume a defensive posture while the brigade, as a whole, conducts offensive operations. In those situations, the IBCT will purposefully conduct a mobile defense. Enabled by RSTA operations that unveil and anticipate the enemy's plan, an IBCT mobile defense best counters the enemy's moves, deprives the enemy of initiative and enables rapid and seamless transition to the offense.

Offensive Operations. As a motorized force, the IBCT is designed for fast-paced, distributed operations. Typically, it operates within an area of operation approximately 50 kilometers by 50 kilometers. The RSTA squadron disperses throughout the entire AO while the infantry battalions normally operate within smaller, noncontiguous areas. Constituent rifle companies and platoons may also be dispersed within the battalion areas (as may RSTA units) depending on the situation. Robust C^4ISR capabilities and high mobility enable the IBCT to operate according to a new tactical paradigm. In the past, maneuver forces normally:

- **Made contact with the enemy.**
- **Developed the situation further.**
- **Maneuvered for decisive action.**

Owing to enhanced SU, the IBCT will often be able to:

- **Develop the situation out of contact.**
- **Maneuver rapidly to positions of advantage.**
- **Initiate contact at the time and place of the commander's choice to achieve decision.**

Engineers prepare to breach a wall in Mogadishu, Somalia.

In an SSC, offensive operations are orchestrated at the battalion level. Infantry battalions synchronize the maneuver of their companies with organic and supporting fires and effects. Companies, the centerpiece of maneuver, may retain a platoon out of contact to exploit success, flank enemy positions or commit as a reserve. Brigade-level assets, such as antitank, artillery and engineer units, are employed at that level or allocated to maneuver elements as dictated by the situation.

As necessary, the IBCT will conduct rapid tactical or operational movement for positional advantage, based upon highly accurate situational understanding, before dismounting infantrymen for close combat. Rapid, precision maneuver permits combat elements to avoid enemy strengths, attack from unexpected directions, achieve surprise or fix the enemy with one portion of the IBCT while mounting a precise, deliberate attack on the enemy's flanks or rear.

In cases of incomplete situational understanding, maneuver formations may also fight mounted if ambushed or forced into a meeting engagement. While fighting mounted is not preferred, motorized formations will execute battle drills to escape or overwhelm the enemy in unexpected encounters.

Normally, deliberate assaults by dismounted infantry companies and platoons supported by immediate, responsive direct and indirect fires will achieve decisions. Infantry support systems provide continuous, integrated coverage from overwatch positions, preferably from defilade, moving as required to maintain continuous suppressive and destructive fires on the enemy as directed by the dismounted element. Indirect fires at brigade and higher echelons shape the battlespace and suppress and destroy the enemy in the close fight. Antitank engagements are planned to counter enemy medium armor. Company mobile gun systems are positioned to place direct fires against hardened positions, light and medium armor and light tactical vehicles.

In the close fight, platoons and squads execute traditional fire and maneuver tactics. Intrasquad radios that permit communications among infantrymen and between their fighting vehicles improve synchronized action even at the lowest levels.

RSTA Operations. The squadron must excel in the traditional reconnaissance and surveillance roles and in the broader mission of providing situational understanding of the operational environment in all its dimensions—political, cultural, economic, demographic, and military. The squadron's efforts are complemented by direct access to intelligence and information sources external to the IBCT and focused by the ISR integration and management elements at the brigade level.

Typically, the squadron operates across the entire IBCT AO, executing its multidimensional roles according to an integrated brigade-level ISR plan. Troop operations are widely separated, but coordinated and synchronized. The squadron's ability to reconnoiter continuously nine routes or 18 designated areas of interest (or a combination) guarantees broad coverage that can be focused and prioritized to weight an ongoing operation. Done properly, RSTA operations have high payoff in the areas of warning, force protection, combat assessment, freedom of maneuver, and the commander's flexibility and initiative.

Integrated Fire Support and Effects Coordination. The IBCT employs lethal and nonlethal effects to protect the force, shape the battlespace and support decisive operations. Effects are the result of the directed application of lethal and nonlethal capabilities to achieve a desired purpose or outcome in support of the commander's intent. Effects are a component of the operational plan and must be fully integrated and synchronized with other elements of the plan, particularly the scheme of maneuver. Planning must include the control and management of unintended effects and their impact on the mission. Normally, effects planning does not include subordinate maneuver forces or the direct fires organic to those forces.

In combat-intensive contingencies, lethal effects are primarily for force protection and decisive results. In other environments, particularly when confronting asymmetric adversaries, nonlethal effects may rise in importance. The range of nonlethal effects includes the employment of civil affairs, public affairs, law enforcement, legal assistance and restorative human services. Fully integrated lethal and nonlethal effects, synchronized within a cohesive plan of operations, set the conditions for tactical success and combine with maneuver to achieve the commander's intent.

Although capable of serving many purposes, the organic artillery battalion focuses sharply on responsive, proactive counterbattery fires. The fire support system must capitalize on digitally integrated C^4ISR capabilities to acquire, target and destroy enemy indirect fire systems *before* they engage IBCT elements. Effects planning is accomplished collaboratively with other battlefield operating systems resident within the IBCT. Links with the common ground station, coupled with voice and digital links to counterfire radars, fire support teams and reconnaissance elements are particularly important. Fire support teams are located down to company level within the IBCT's maneuver formations.

Concept of Support and Sustainment

A C-130 Hercules Lands on an Unimproved Strip in Honduras.

To sustain the IBCT, the BSB executes a unique, execution-focused concept of support that is fully integrated with the brigade concept of operations and scheme of maneuver. BSB support operations are characterized by continuous adaptation and creative tailoring, based on unit operating tempos, commander-designated priorities for support and the frequently changing battlespace requirements. Through centralized management and CSS situational understanding, the BSB combines distribution to unit level with area supply points to ensure that services and supplies are delivered when and where they are needed, fully synchronizing the IBCT's logistic rhythm with battle rhythms. Logistic flexibility and dynamic retasking of BSB elements typify its operations as supplies and services are tailored, packaged and delivered to specific supported units.

Initial sustainment will rely on a combination of unit basic loads and strategic configured loads in early arriving task force sets. Sustainment stocks must also be integrated into the deployment flow early to sustain first-arriving elements. Battlefield distribution will combine situational understanding with efficient air and surface delivery systems to form a seamless pipeline, eliminating most stockpiles and substituting speed for mass.

IBCT Operations within a Division

To this point, this article has focused on brigade-level operations during an SSC. However, the IBCT is a full-spectrum combat force normally employed as part of a division. Given this employment parameter, the following section presents some initial, brief, analytically based insights into how the IBCT would operate within three division variants.

Light Division. When deployed as part of a light division, the IBCT extends the tactical mobility available to the division commander and increases the organic firepower available to support dismounted assaults. As the most mobile, lethal and survivable element within a light division, the IBCT is likely to be employed as the main effort within the division. It may, therefore, receive the larger share of divisional assets, such as combat engineers, to assist mobility in offensive operations, an aviation task force to expand combined arms capabilities and air defense systems to improve force protection.

Heavy Division. When deployed as part of a heavy division, the IBCT will almost certainly be the first brigade to deploy, facilitating prompt reception, staging and onward integration of the remainder of the division by consolidating and extending the security of air and sea ports of debarkation. With its high tactical and operational mobility and proficiency in urban and complex terrain, the IBCT adds dimension to heavy-division capabilities. However, given the differences between the IAV-based brigade and formations based on the M1 Abrams Tank and Bradley Fighting Vehicle, the IBCT does require force tailoring for the heavy fight. When so task-organized, primarily with armor, antiarmor, aviation, artillery, air defense, military police, engineer assets and CSS resources, the IBCT is a full participant in division operations. It can form part of the division's main effort, execute the supporting attack, serve as the division reserve, conduct economy of force operations or conduct operations in urban and complex terrain while other division elements operate within open and mixed terrain. In short, the IBCT provides additional capabilities, but also consumes capabilities of divisional slice elements.

Interim Division (IDIV). The IDIV is still in its initial phase of design and evaluation. Nevertheless, initial analysis indicates that the IDIV, encompassing three IBCTs (in some form) as its primary fighting components, will provide more broad-spectrum capabilities than the other two IBCT-embedded divisions. The IBCT-based IDIV will be optimized for employment in the initial phase of major regional contingencies under an Army Forces command. As the lead division for a joint contingency, the IDIV will deploy an early-entry IBCT within 96 hours, followed closely by the rest of the division. The IDIV will shape the battlespace in initial operations, alter conditions to prevent the enemy's early success, facilitate the arrival of follow-on forces and expedite decisive operations.

Corps-level Considerations. Analytical scenarios set in the Middle East, South Asia and Eastern Europe all suggest potential locations for smaller scale contingency operations that would not necessarily require a division force. In these cases, the IBCT, augmented by corps assets, provides the warfighting commander in chief with early, dominant capabilities to deter, contain or decide the outcome of the contingency, allowing the corps and its divisions to retain focus and readiness for potential major theater war.

Conclusions

The development of the IBCT will produce immediate improvement in the strategic responsiveness of Army ground forces. When fielded, the IBCTs will offer a new option for decisive contingency response. At the operational level, IBCTs will sharply enhance the joint force commander's ability to respond to opportunity and uncertainty. Equally important, the IBCTs will represent a clear near-term improvement in national and theater conventional deterrence, providing the National Command Authority (NCA) the capability to place a credible and flexible combat force on the ground anywhere in the world within 96 hours. Finally, the accelerated development of the two initial brigades will also jump-start transformation without compromising the Army's ability to accomplish its most fundamental mission—fighting and winning the nation's wars.✪

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Adaptive Leaders and the IBCT -- Initiative within Intent

by MAJ Brad C. Dostal, Military Analyst, CALL

Part I -- Introduction

Adaptive Leaders -- A Mandate for Change

In October 1999, as Army Chief of Staff General Eric K. Shinseki announced his vision for transforming the U.S. Army in the coming decade, it was clear that significant changes to doctrine, organization, and personnel would follow. An aspect less evident, but no less important, is the far-reaching impact transformation has on leadership and its functions within our conventional forces. Coupled with this transformation of unit structure and operational capabilities, is a need for change in the manner which our leaders operate at unit level. The Interim Brigade Combat Team (IBCT) design parameters demand that this takes place, as subordinate units now execute missions in a dynamic environment where aspects of the entire spectrum of warfare can be experienced daily.

To effectively lead an organization able to accomplish missions as diverse as those stated in the IBCT Organizational and Operational (O&O) Concept, Army senior leaders are challenged with developing a leader-training concept able to more effectively meet the dynamic requirements placed on the tactical leaders of the IBCT. The Honorable Louis Caldera, Secretary of the Army, clearly defined this need following the announcement of the Army's transformation in October of 1999 when he stated, ***"We are working on producing leaders for change, not just leaders who are doctrinally capable and competent leaders for warfighting, but leaders also for all kinds of missions with the capability to deal with an evolving global situation in which the array of threats faced goes across the entire spectrum."***[1] The Army has since established adaptability as an essential competency for its leaders of the 21st Century as they execute operations in highly complex environments predicted in future conflict. This desired adaptability has been further refined into a distinct requirement for all Army leaders, hence giving rise to the term "adaptive leader."

> ***"A leader who can influence people – by providing purpose, direction, and motivation – while operating in a complex, dynamic environment of uncertainty and ambiguity to accomplish the mission and improve the organization." -- Adaptive Leaders as defined by the IBCT O&O Concept***

[1] The Honorable Louis Caldera and General Eric K. Shinseki, ***The Army Vision: Soldiers on Point for the Nation...Persuasive in Peace, Invincible in War.*** Publication available on TRADOC home page, <tradoc.army.mil>

To meet the challenges of building adaptive leadership skills in the IBCT, the Army recently began an aggressive program of leader training developed by TRADOC. The program includes the Senior Leader's Course (SLC), Tactical Leader's Course (TLC), and other follow-on sustainment training programs covering leadership. The SLC is conducted at various installations and culminates in a weeklong exercise at Fort Leavenworth, KS, where leaders are faced with simulation scenarios requiring them to conduct decision-making processes while integrating situational understanding with the new technologies and enhanced capabilities of the IBCT. The TLC follows the SLC, where the focus shifts to the leaders at the battalion level, covering the capabilities of the unit, and how it fights at the tactical level. Upon completion of these courses, which have significant participation from various schools including Infantry, Armor, Intelligence, and Logistics, IBCT leaders gain the basis of knowledge required to operate more successfully with a thorough understanding of the operational capabilities and constraints of the IBCT.[2]

This article focuses on two portions of this ongoing adaptive leader training process, the Senior Leader's Course capstone exercise conducted at Fort Leavenworth, and the first iteration of adaptive leader vignette training conducted at Fort Lewis, WA. Both of these training events are key components of the adaptive leader training program begun in the IBCT last summer, and will be executed again in the future as more units begin transformation. Military analysts from CALL attended both of these sessions, gathering data, and conducting interviews of participants. By sharing the lessons learned during these events, and discussing general observations of adaptive leader theory from the perspective of different leaders, this emerging and vital aspect of our transformational Army doctrine will be better understood and applied.

Part II -- Senior Leader's Course

Senior Leader's Course -- Adaptive Leader Introduction

The Senior Leader's Course spearheaded the adaptive leader training within the IBCT. The six-week course is carried out in six different locations with varying foci as follows: Fort Lewis, WA -- Introduction and Overview; Fort Lee, VA -- Combat Service Support (CSS); Fort Huachuca, AZ -- Intelligence; Fort Knox, KY -- Reconnaissance, Surveillance, and Target Acquisition (RSTA); Fort Benning, GA, -- Maneuver; and Fort Leavenworth, KS -- Capstone Exercise. Throughout the training conducted during the sessions at each location "adaptive thinking" and "adaptive leadership" is a common component. The importance of adaptive thinking throughout the SLC is best defined by COL Kevin Benson, Deputy Commander, Brigade Coordination Cell, when he said, ***"The only constants I've known in the Army is that personal leadership is always required, and change is constant."***[3] The key objective of the SLC prepares leaders to meet with and succeed in the face of the element of constant change by "introducing adaptive thinking exercises…to stretch commanders and staff in a dynamic environment."[4]

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[2] Ervin, Kent E., Colonel, and Decker, David A., Lieutenant Colonel, **"Adaptive Leaders and the Interim Brigade Combat Team,"** ***Military Review,*** September-October 2000.

[3] Benson, Kevin C., Colonel, Deputy Commander, Brigade Coordination Cell (BCC), Interview by CALL analyst at the BCC, January 2001, Fort Lewis, WA.

[4] SLC Capstone Exercise Process Action Briefing, 23 March 2000, p. 4.

The SLC meets the objective of fostering multi-dimensional thinking through the deliberate practice of applying adaptive techniques to problemsolving, and the practice of assigning mentors and subject matter experts (SMEs) with key leaders. It is anticipated that through this process, adaptive leader traits (as shown in Figure 1) can be fostered and enhanced during the training. During the Capstone exercise, leaders are given methodologies for "how to think" in a more multidimensional manner. Much of this relates directly to the actions of leaders in a digital environment. The training is focused on the leader's ability to process and use the multitude of information available on ABCS to increase situational understanding. The presence of mentors and SMEs is key to this process during the SLC. The mentors are critical because they assist participants in thinking on several levels, considering both multiple actions and expected results. The extra depth provided by the mentors increases the overall quality of the SLC by supplying the IBCT leadership an easily accessible base of knowledge and additional experience to expand the adaptive thinking process.

ADAPTIVE LEADER TRAITS

✓Decisive.
✓Can balance human leadership dimension with technology.
✓Comfortable with uncertainty (agile and flexible).
✓Focused, quick learner.
✓Empowering and decentralized leadership allowing for "Initiative within intent."
✓Good communicator.
✓Can build cohesive, trusting teams with candor.
✓Can use force across the full spectrum of conflict.

Figure 1

Senior Leader's Course -- Adaptive Leaders in Action

The primary event of the SLC Capstone exercise is a brigade simulation exercise conducted in the operational environment of Kosovo. The mission involves elements of the brigade securing an area including two major Lines of Communication (LOCs), while preparing to defend against a threat force armed with Soviet-era armor and mechanized equipment. The brigade staff executes mission planning and C^2 for the exercise, with the battalion staffs responsible for providing appropriate subordinate unit feedback into the simulation systems. JANUS is used as the simulations tool providing invaluable feedback at the operational and tactical level to all components of the brigade staff. Actual Army Battle Command Systems (ABCS) are not used for the exercise, but instead, the capabilities of the systems are built into the simulation using "white box" technology.[5] Permanent party personnel man JANUS terminals with input provided by the battalion staff elements to provide maximum realism for the brigade.

[5] White box training involves the use of ABCS system software on a standard desktop computer not hardened for field use. Actual field-ready ABCS components are commonly referred to as "green boxes." Throughout the transformation process, GEN John N. Abrams, TRADOC Commander, has clearly stated his desire to use white box systems wherever possible to maintain the momentum in keeping IBCT training and doctrinal development on schedule.

Staff personnel at Fort Leavenworth assist the unit in conducting the simulation in many ways. Operators familiar with the ABCS suite functions are provided and are responsible for entering data into the system unit operators would normally do. Contractors are assigned to ensure the proper functionality of the simulations suite, and provide valuable insight to IBCT commanders and staff on the functionality of the simulation. Lastly, and most important to the process of adaptive thinking are the mentors. These consist of personnel specifically designated to assist the senior commanders in developing techniques to conduct mission analysis and in exercising C^2 in the digital environment. All of these exercise support personnel are of great value to the unit, as they allow the unit to focus on the theory and practice of adaptive processes, and not get bogged down in the simulation.

Army Battle Command Systems -- Tools for Adaptive Thought

During the SLC, many tools are provided to the IBCT leaders to facilitate adaptive thought in the digital environment. One of these tools is the "whiteboard" capability of the MCS system.[6] The brigade staff uses the whiteboard capabilities of the MCS system to demonstrate new techniques for staff planning in a digital environment. One specific example coincided with the critical exchange of information following events triggering significant changes to the current plan during the simulation. The brigade commander needed to maneuver a force to protect his flank from a recent movement by the enemy forces. Following input from the S2 and S3, the brigade commander developed a tentative Course of Action (COA) sketch with a commander's intent statement on the whiteboard. He then communicated with subordinates, discussing his thoughts and requesting feedback. A brief discussion took place via FM to ensure the COA was supportable by all. The brigade commander then gave the word to execute, and forces began moving against the enemy threat.

Upon completion of the exercise, the unit discusses the method it used to decide on the COA. All participants agreed that the sketch on the whiteboard helped to visualize what the commander was thinking. Once the sketch and commander's intent appears on the whiteboard, subordinate staffs can work to determine if it was supportable before and during the brigade commander's huddle on the net with battalion commanders. While the commanders are sharing information via FM, the XOs/S3s are getting the word out. Prior to the end of the FM huddle, most staff directors are returning to their boss with a tentative "thumbs-up" of the staff's initial analysis. These actions are clearly the beginnings of adaptive leadership in action during the SLC.

Another valuable trait developed during the SLC is an appreciation of situational awareness and why it is so critical for success in a digital brigade. In fact, many involved in the process of transformation see "situational awareness and understanding" as the single most important combat multiplier of the IBCT organization. When asked to state the defining characteristic of the IBCT, BG Paul Eaton, Deputy Commanding General for Transformation, TRADOC, stated, *"It's about situational awareness…producing an outfit that is a full spectrum-capable and tremendously adaptive combined arms organization."*[7] It is evident then that a grasp of situational awareness and corresponding situational understanding is clearly desirable in all adaptive leaders.

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[6] The whiteboard is a collaborative planning tool provided to commanders in the Maneuver Control System (MCS) suite of software, which allows the commander to draw sketches onto a screen and project the image to other individuals at distant locations to facilitate collaborative planning.

[7] Eaton, Paul D., Brigadier General, Deputy Commanding General for Transformation, interview by CALL analyst at the BCC, December 2000, Fort Lewis, WA.

The term situational awareness is discussed at nearly every event and After-Action Review (AAR) during the SLC. The focal point for SA is the Common Operational Picture (COP), also known as the Common Tactical Picture (CTP). This is the view shown on the MCS for use by commanders and staff at all levels. At one point during the exercise, the senior mentor stopped the staff and asked leaders at different levels to describe what SA meant to them. It then hit home to all that the situational awareness they all had been using as a point of reference may not have been the same. It became evident that different sections were focused on their own "piece of the pie" within the framework of SA, thereby, at times not seeing the total COP. When this happens, situational understanding is not gained, since the collective picture is not being studied.

The communications and messaging systems available in the ABCS suite are also tools that provided valuable advantages to the adaptive leader processes trained during the SLC, enhancing information flow and situational awareness at all levels. The brigade simulation reinforces the importance of managing and processing the information available on the systems. The amount of information available to commanders and staff quickly overwhelms even the best of staffs. Procedures to manage communications and facilitate critical information flow are soon recognized as vital. During the early portion of the exercise, the brigade staff at all levels became engulfed by information from radio traffic and digital All-Source Analysis System (ASAS) feed.[8] Dozens of digital messages were sent to subordinates, with no receipt verification plan in place. Although this was one area that the unit was not able to resolve during the SLC Capstone exercise, unit personnel clearly gained an understanding of the importance of digital message management of C^2 in the IBCT, and began to develop techniques to resolve the issue.

Senior Leader's Course -- Lessons Learned

Whiteboard Utilization -- During the SLC, there were many lessons learned relating to the practice of adaptive leader theory within the IBCT and the digital tools used to facilitate the process. One key lesson is in the understanding of the value of the whiteboard, as it allows the commander to share his vision of the battle with his subordinates in "real time," even if they are not collocated. Staff procedures and mission planning doctrine must take into account this new technology. It gives the commander a means by which he can quickly share his vision, build consensus, and begin execution. This allows the commander to capitalize on new information and act on it in a more dynamic fashion. The technique of sharing a potential COAs early on the whiteboard is useful since it gives the subordinates a start point to begin with in their planning. **Parallel planning in the digital arena takes place at a much faster pace, and the commander must disseminate his intent early to allow subordinate units to continue to plan successfully.** The effects of these techniques must be considered when developing doctrine for the IBCT. The impact of digitalization on the military decision-making process is significant. To gain an advantage from the digital systems, commanders and staffs must be able to not only see the current picture, but also to act on it in a timely manner as well.

[8] The All-Source Analysis System (ASAS) is an automated intelligence processing and dissemination system. It provides all-source intelligence fusion, allowing commanders and their staffs to gain timely and comprehensive understanding of enemy deployments, capabilities, and potential courses of action. It also provides operations security support, and aids in deception and counterintelligence operations.

Situational Awareness -- The focus on the topic of situational awareness (SA) and situational understanding (SU) is one of the value-added components of the SLC. Leaders and staff officers at all levels learn the importance of identifying the elements key to SA and standardizing the methods and inputs provided by all. **Once all leaders understand the elements necessary to develop SA leading to solid SU, an accurate Common Operational Picture (COP) is better maintained.** Many methods for building good SA through the COP are presented during the SLC. The use of mechanical filters is one of them. Unit locations on the MCS can be viewed with battalion, company, or platoon icons. The brigade staff may want to implement a policy of no icons below company level, to keep the COP less cluttered and clearer. Planners need to see the level most applicable to them, but at the same time understand others are not seeing the exact same screen. The brigade commander can look at company icons, while the battalion commander views platoon icons, thereby giving each a more applicable perspective. Another factor to consider is the management of the COP by the staff at each level. There must be a timely process for staff functional areas to update their input to the COP screen. Someone on the staff must be designated to ensure input is current and that the commander's guidance is incorporated into the information. The physical layout of the viewing screen is also important. It should be next to a communications suite and available at all times for the commander and staff to view**.**

Message Management -- Solutions to challenging TOC communications and messaging procedures within a digital organization are also shared during the SLC AARs. **One key to message traffic management is the prioritization of messages.** Units must have strict rules for users to follow as they categorize and send messages. By deciding ahead of time which messages are to be categorized as routine, priority, or immediate, messages will be read and acted upon by personnel in an appropriate and timely manner. The issue of sheer information volume is one of the most difficult issues to solve in the digital environment. One option to resolve this issue is the designation of an information management officer, not currently included in the IBCT O&O. This person would review and collate information from different systems and ensure its applicability and necessity to the COP. Of course the S2, S3, and S4 are chartered to do this at their level, but a collective effort completed within the operations cell should be considered. Video Teleconferencing (VTC) is another tool available to improve information clarity. The prioritization of the VTC capability with the main effort is a way to ensure the technology is available where the commander needs it most.

Senior Leader's Course – Conclusions

The Senior Leader's Course Capstone Exercise is successful in demonstrating the specific tools available to the leaders of the IBCT to build flexibility and adaptability into operational planning and execution. Overall, the use of JANUS as a simulation suite for the exercise is positive. It provides the brigade staff with realistic tactical operational data to execute planning as required. The only drawback is the requirement to utilize maneuver battalion staffs to provide the simulation data feed, which limits their ability to participate in the larger ABCS play of the exercise. Although this provides realistic play for the brigade, it takes all commanders and staff of the maneuver battalions out of the true digital play and relegates them to conduct analog operations for input to JANUS. The advantage is the high quality input to the brigade staff; however, the disadvantage is the lack of ABCS hands-on for the battalions. However, this does not negatively impact the simulation since the intent is to build operational knowledge of the capabilities of the unit in the simulation, not to train on ABCS.

During the SLC Capstone Exercise, the brigade made great gains in learning the employment of the maneuver battalions, and the components unique to the IBCT organization. The exercise allows the battalion staff to practice the tactical employment of their forces in the complete spectrum of warfare, from Stability and Support Operations (SASO) to a Major Theater of War (MTW) environment as the simulation pits the deployed brigade against a mounting force of hostile armor and mechanized forces. The significant challenge poised by these formidable enemy forces raises the awareness of adaptive thought at all levels in the brigade. At the end of the SLC Capstone Exercise, the brigade leaders are clearly gaining an appreciation for the value of adaptive leadership within the dynamic operational environment of the IBCT.

Part III -- Vignette Training

Leader Vignettes --A Method for Change

To maintain the initiative of adaptive leader training within the IBCT, a series of training vignettes was developed as part of the sustainment-training package for the ongoing efforts of developing adaptive leaders in the IBCT. This part of the leader training model is named the "Adaptive Leader Vignette" training program. The goal of the program is to reinforce many of the concepts presented in the IBCT O&O. One concept of great importance is to replicate a situation where the operational environment of the unit places great demands on leaders to think and decide under ambiguous circumstances while executing initiative within the commander's intent. This key aspect of the leader vignette training program was made clear by Major General James Dubik, Deputy Commanding General for Transformation, when he stated, ***"The leader development program was developed from several aspects of the Operational and Organizational concept. One, the requirement for*** **full spectrum warfare,** ***two, the requirement for*** **decentralized and dispersed operations,** ***and three, the*** **operational speed required of the unit.** ***When you add these three things together, you realize leaders have to be more comfortable with ambiguity and more confident in knowing how to make decisions on their own."***[9]

The leader vignettes originated from the desire expressed in senior planners of the IBCT leadership development program to develop a more structured program for leader development in units, one that could become the long-term pillar of adaptive leader training. Major General James Dubik clarified this vision during an interview by stating, ***"We wanted to create a series of experiences that leaders could learn from while learning with other leaders…We wanted an approach that would be structured and scheduled, and executed quarterly within the brigade."***[10] The experiences are gained through the collective problemsolving of brigade-, battalion-, and company-level scenarios focusing on the four leader skills of interpersonal, conceptual, technical, and tactical as defined in FM 22-100.[11] By focusing on these skills, General Dubik strongly believes junior commanders will, ***"...start learning how the brigade commander thinks, understand how to solve brigade-level problems while focused on the doctrine of FM 22-100, and begin talking about key behaviors and values."***[12]

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[9] Dubik, James M., Major General, Deputy Commanding General for Transformation, interview by CALL analyst at the BCC, September 2000, Fort Lewis, WA.

[10] Ibid.

[11] FM 22-100, Figure 2-3, Leader Skills, p. 2-25.

[12] Dubik, James M., Major General, Deputy Commanding General for Transformation, interview by CALL analyst at the BCC, September 2000, Fort Lewis, WA.

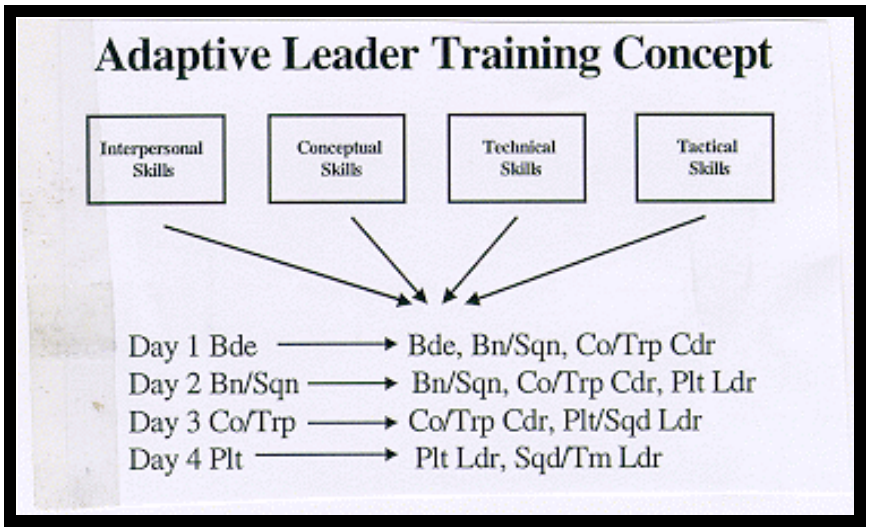


Figure 2

The vignettes were developed IAW the guidelines of TRADOC under the supervision of the Center for Army Leadership (CAL) at Fort Leavenworth. The vignettes are meant to facilitate training of junior leaders by providing situations, focusing on some of the problems their senior leaders may face during operations. By working through the problem, providing potential solutions, and then discussing the results with senior commanders, junior leaders gain a better understanding of their superior's decision-making processes, and valuable insight into how their commander thinks. With this better understanding of how the "boss thinks," junior leaders can build the skill set needed to meet the commander's intent. These skills are critical during times when additional guidance from senior commanders beyond the initial commanders intent is impractical or impossible based on the nature of decentralized operations and requirement for the increased timeliness of decisions within the IBCT.

The training concept for the vignettes is straightforward, with each scenario developed as a stand-alone product. The training is conducted at unit level, with the appropriate leaders facilitating the discussion. The goal is to conduct one week of training every quarter, with each week of training divided into brigade-, battalion- or squadron-, company- or troop-, and platoon-level training, as shown in Figure 2. The scenarios provide leaders with a choice of vignettes targeting the four critical leader skills required of competent leaders as defined in FM 22-100: interpersonal, conceptual, technical, and tactical (see Figure 3). The importance of these leader skills was summed up best in a timeless statement by General of the Army Omar N. Bradley, ***"The American soldier… demands professional competence in his leaders. In battle, he wants to know that the job is going to be done right, with no unnecessary casualties. The noncommissioned officer wearing the chevron is supposed to be the best soldier in the platoon and he is supposed to know how to perform all the duties expected of him. The American soldier expects his sergeant to be able to teach him how to do his job. And he expects even more of his officers."***[13]

[13] FM 22-100, Section II, Competence: What a Leader Must Know, p. 2-24.

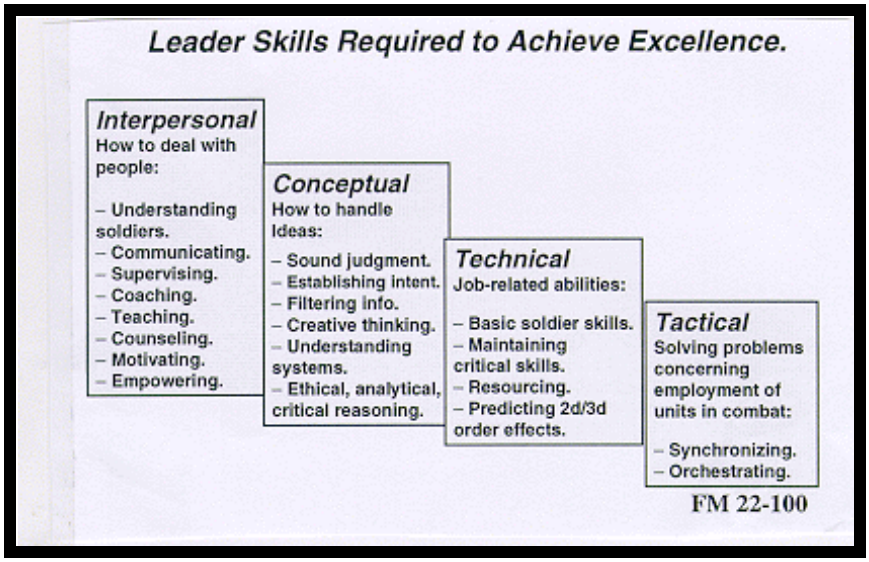
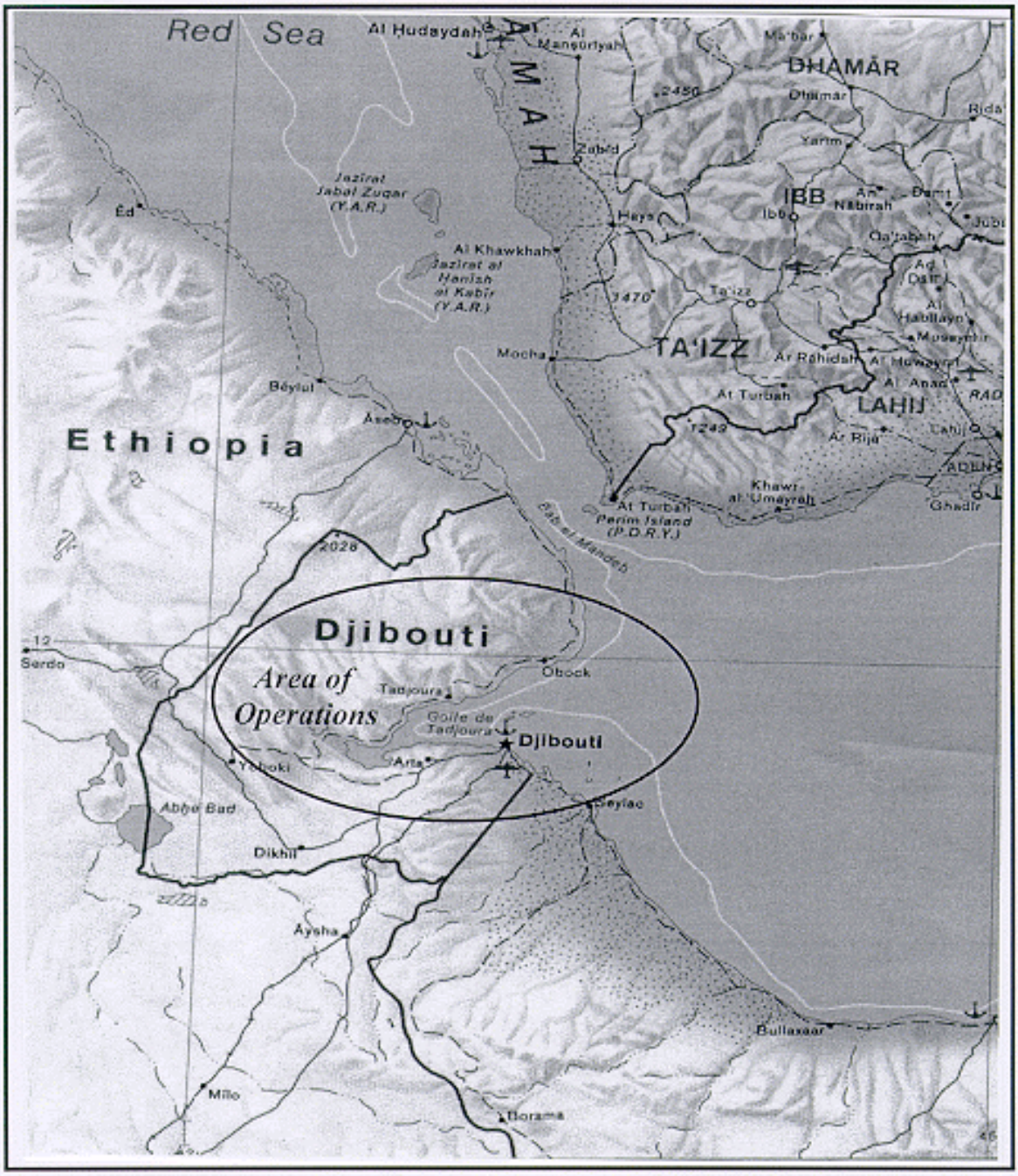


Figure 3

The leader facilitating the program chooses an area most comfortable to begin training, and then branches out into the more ambiguous topics presented in the vignettes, covering all of the leader competencies. Through the execution of the vignette training, it is anticipated that IBCT leaders can more effectively build this critical skill set through the process of thinking two levels up, exercising initiative within intent, and thinking "out of the box," as the vignettes are designed to lead to all of these actions from participants during the conduct of the training. Military analysts from CALL observed the training to assess these objectives, as well as the overall effectiveness of the program.

Adaptive Leader Training -- Putting Theory into Practice

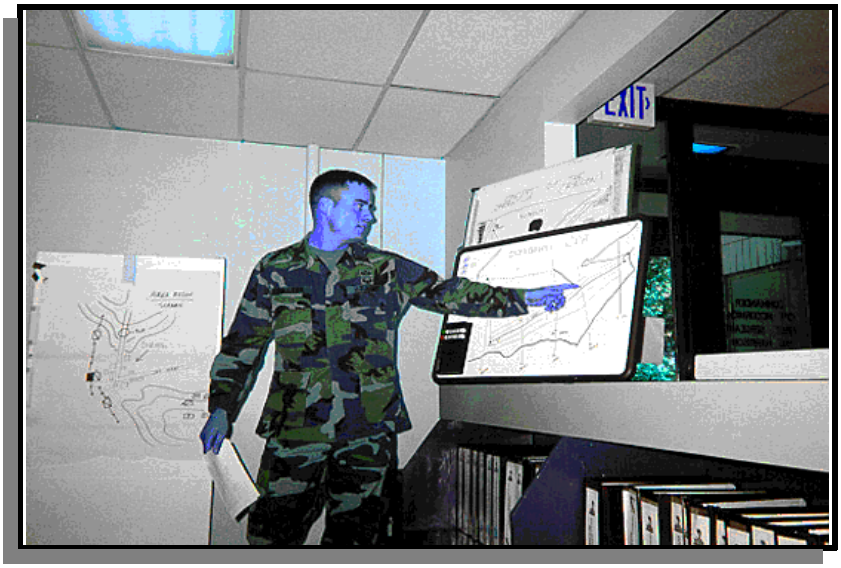
The brigade commander led the first day's training, executing the event in a manner similar to a mission analysis session in a battalion or brigade plans cell during an exercise. The brigade used a vignette covering the deployment of the IBCT as part of a multi-national force to the port of Djibouti, Africa. The situation is one that has grown critical due to terrorist attacks in major cities throughout Djibouti, and the growing civil unrest related to these attacks. Based on a request from the host nation, the IBCT has been brought in to present a show of force that demonstrates U.S. and multi-nationals resolve to stabilize the situation and maintain friendly strategic control of the Suez Canal (see Enclosure 1 to view the vignette). A handout of the vignette is given to all participants, with a copy of a situational summary of the vignette. The brigade commander provides an overview of the scenario, and his expectations for the activity. Key to his remarks was his guidance that there is no "school solution," and that all participants determine a COA with the information provided, even if limited. The brigade commander clearly knew good leaders would want as much information as possible, and wanted to ensure that subordinates understood a decision on a recommended COA was necessary to facilitate a successful training event.



A Map of the Djibouti Area of Operations used during the Leader Vignette Training.

The brigade staff provided additional information, beyond what was included in the packets, to the leaders participating in the training. This information included a specific mission statement for the scenario, additional maps/graphical portrayals of the objective area, and a detailed summary of the political, economic, and military characteristics of Djibouti, the location of the vignette being trained. Providing leaders with a format they have grown familiar with through rotations to the Combat Training Centers (CTCs), the S2 also briefed a road-to-war power point presentation. It covered a realistic scenario leading up to the situation described in the vignette, and offered greater detail of the historical context of Djibouti. After completion of the briefings, the leaders separated into small groups of eight to 10 members, and are informed that they will brief a BDE COA to the assembled group after an hour of preparation time. Nearly all groups immediately conduct a mission analysis on the information they are given to assist them in developing a course of action. The scenario calls for the IBCT to secure a logistical hub at the capital city, and then extend operations to two other cities, using a LOC approximately 110 miles long. During the conduct of the operation, the IBCT is augmented with a Saudi Arabian Mechanized Rifle Company (SAMRC). After identifying the facts, assumptions, specified and implied tasks and developing a restated mission, the groups draw concept sketches with the task organization and maneuver plan to brief to the BDE Cdr and collective leadership.

Leaders Study a Map of the Area of Operations while Planning a COA.



An NCO Conducts a COA Brief during the Company/Troop Adaptive Leader Focus Day.

Each group selects a spokesperson to brief the concept sketch to the collective group. All of the leaders are comfortable with the Djibouti scenario. It is one of the tactical scenarios and provides a level of familiarity since they are able to tackle it using the tools learned so effectively in the Captain's Career Course, ANCOC, and during routine mission planning in the unit. Most of the units continue to train using the tactical scenarios throughout the week because of this level of familiarity, rather than use the interpersonal or conceptual vignettes. The tactical vignettes also facilitate the COA briefback model better, and allow for a more objective presentation.

Leader Vignettes -- Lessons Learned

Operations Planning -- During the brigade, battalion/squadron, and company/troop training, the junior leaders demonstrated a keen ability to plan operations two levels up, a credit to our institutional schools and leaders at all levels in the Army. The task organization of brigade assets by the company-level leadership, and the battalion assets by the platoon-level leadership is sound in nearly all cases. Junior leaders within the IBCT clearly demonstrate a grasp of the unique capabilities of the IBCT. Strong emphasis is placed on combined arms maneuver, with the role of the artillery, mortars, engineers, and reconnaissance assets discussed by leaders at all levels throughout the week. Even the purpose of non-lethal effects of unit assets was addressed during the concept briefs, with an appreciation that many incidents will not require lethal force. One common operational planning weakness noted is that because of the presence of Force XXI Battle Command Brigade and Below (FBCB2)[14] capability within elements, leaders are less likely to clearly define graphical control measures during their concept brief, sometimes assuming the digital systems provide the necessary control. The brigade commander reiterated the need for graphical control measures, stressing that reliance only on digital systems as a replacement for graphics would lead to fratricide.

[14] FBCB2 provides situational awareness and C^2 to the lowest tactical echelons through element positional and navigational reporting capability and near real-time graphical displays of friendly and enemy unit locations.

Communications Planning -- One particularly interesting aspect of the Djibouti scenario is the distance the unit is required to cover during the operation. Leaders are aware of the difficulties of route and convoy security with a 110-mile LOC, and its corresponding impact on communications and situational awareness within the brigade. Techniques to overcome the difficulty of maintaining communication between elements were discussed during the Bde-level vignette. The method of operating elements in nodes, or smaller groupings of forces on the battlefield to maintain full digital situational awareness was shared. To communicate outside of the node, leaders realized they would have to rely on limited retrans or analog capabilities to gain connectivity with other elements as required. This scenario emphasized the need for Tactical Satellite (TACSAT) and High Frequency (HF) radios within the IBCT, most of which are scheduled to be fielded in the next year, and the importance of integrating these systems to boost systems connectivity when operating over long distances. The scenario reinforced the fact that decentralized operations, as described in the O&O, are, in fact, a reality of conducting operations within the IBCT, especially when deployed as part of an early entry force.

Combined Operations -- The Djibouti vignette placed the junior leaders in a complex Stability and Support Operations (SASO) environment. As defined in the O&O, ***"SASO normally entail a combination of actions and operations within a single area of operations…and are often joint and multinational."***[15] The leaders are faced with the issue of augmentation of a Saudi Arabian Mechanized Rifle Company, which leads to some interesting discussion following each group's brief on the operational plan for integrating the Saudi unit. Some junior leaders do not fully appreciate the criticality of liaison officers (LOs), and senior leaders must emphasize the importance of their role within the IBCT during combined operations. Planners are also confronted with an issue of significance, the lack of FBCB2 and other digital assets with foreign forces working with or augmenting the IBCT. Leaders are reminded that this is similar to many other technologies not shared with our allies, although it does impact on the commander's ability to command and control his forces if one unit is not digitally tracked.

Route Security -- Route security and convoy planning operations were a major part of the discussion during the Djibouti vignettes conducted at all levels throughout the week. Since many of the subordinate units trained with similar, but scaled-down versions of the Bde's Djibouti scenario, the issue of route and convoy were of concern at all levels. Since it became evident that constant security of the 110-mile route was a significant task, leaders concluded they really had two choices. They could conduct route-clearance operations preceding major movements, and provide additional resources to convoy elements, or they could treat the route security effort as the main effort itself, dedicating a majority of the Bde's resources to full-time maintenance of the LOC. The brigade commander reminded everyone of the reality of an operation of this scope, and that it could easily take more than one infantry battalion to maintain a LOC of the magnitude discussed, becoming the primary focus of the brigade during a SASO mission.

Presence Patrols – During planning sessions for the Djibouti scenario, most leaders maintained the expectation that brigade elements must quickly push out to establish a dominating presence within the SASO environment. Nearly all COAs briefed placed the main effort of the unit moving to the farthest corner of the operational area, to influence events in a village 110 miles from the logistics base during the first few days on the ground. Although this

[15] IBCT O&O Concept, Version 4.0, 30 June 2000, p. 61.

mission is assigned in the vignette, the brigade commander raised the possibility that junior leaders had spread the brigade's assets too far, too early in the operation, before gaining an understanding of the full intent and capabilities of potential enemy elements in the area of operations. He reiterated the point that it usually is easy to establish the initial presence in a SASO environment, but much harder to maintain it once the enemy has assessed the situation and decides to counter your moves. He raised the issue of whether the leaders truly understood the risks of deploying a battalion 110 miles away from the support base; especially after supply convoys begin having difficulty traveling the LOC.

Logistical Planning -- Of greatest concern to the brigade commander was the fact that extending his forces over such a wide area unnecessarily exposed a vulnerability of the IBCT, while at the same time weakening a vital strength. The distance between the main effort and the Brigade Support Battalion (BSB) in most COAs is significant, and relies on the austere support tail of the IBCT to cover a significant distance to resupply the main effort. In a unit with an already austere logistical tail, this may be too great a risk. Also, extending the force beyond reasonable retrans capability of the unit significantly hinders the situational understanding of the IBCT commander and staff. This could be an acceptable risk if the circumstances warranted, but to immediately exceed some of the capabilities of digital systems and greatly extend the supply tail is a substantial risk, limiting capabilities and options early in the operation.

RSTA Employment -- It also is clear that the RSTA must not be tasked with the main effort for conducting route security beyond the initial stages of the operations. If bogged down with resource-intensive route security operations, the RSTA Squadron cannot excel in the critical roles it is assigned in the O&O, that of conducting reconnaissance, surveillance, and target acquisition of enemy forces, and in the broader mission of providing situational understanding of the operational environment to the commander. In most small group's maneuver plan, the RSTA squadron was assigned more than just the initial role of route security followed by a supporting role in maintaining the LOC. In nearly all COA briefs, the RSTA was responsible for maintaining a presence on the three outer sides of the area of operations. Most leaders tasked the squadron with the mission of screening, requiring the areas to be covered by a troop ranging in size from 10 to nearly 60 miles. This quickly led to the discussion of the RSTA's doctrinal capabilities to screen, which is 15-25 kilometers, depending on terrain. Methods to cover this distance with Unmanned Aerial Vehicles (UAVs), the Joint Surveillance Target Attack Radar System (JSTARS), or with the organic capabilities of the multi-sensor platoon were discussed as likely options to fill these gaps in critical areas.

Leader Vignette Training -- Conclusions

The adaptive leader vignette training is a highly successful event for the brigade. The sequential nature of the program, which begins with brigade-level leadership and reaches to the platoon level, allows commanders at each level to set a clear standard for training. On subsequent days, leaders meet their commander's intent as they execute at their level. The IBCT is not able to meet the goal of completing four vignettes per day; in fact, one to two daily is normal. With the time spent briefing the situation, reading the vignette, discussing in small groups, and presenting collectively, three hours' time per vignette is common. Since most participating units involve a high number of participants, feedback is significant, also leading to more time taken on each problem.

Throughout the week, training remained on target, accomplishing the goal of training subordinates to think two levels up, building the understanding of the IBCT capabilities, and getting leaders to think outside of established norms. During the platoon-level execution, there was a noticeable reduction in the quality of execution not seen in any of the previous three days, since many of the personnel at platoon level lacked the depth of understanding of operations at company level and above, and did not have the necessary background on the unique capabilities of the IBCT. Since all units involve squad leaders in the company-level training, and many in the battalion-level training as well, the platoon-level training should be reassessed, as the ability of these elements to execute the training within the guidelines is limited.

The brigade and subordinate elements invest significant time producing additional products to augment the packet prepared by TRADOC and CAL. Although the vignettes are already produced in a ready-to-teach form, units continue to add products because of the desire to provide more information. The large-scale map sheets and "Road-to-War" brief are appropriate, and helped leaders to better assimilate information in the format familiar to the unit. Although some participants desire even more information, such as 1:50,000 map sheets, or more detailed intelligence summaries, the vignettes could quickly overreach their original intent. The spirit of a packet that can be handed out, read, and executed on the spot, with minimal preparation time, is critical to the success of the leader vignette training. Although it is recommended that additional large-scale maps and sketches be added to the vignettes as applicable, the packets should not require extensive read-ahead or significant time by unit commanders or staff to prepare prior to executing the problems. The value of the program is in its ease of execution, allowing the commander and subordinates time to work together without distraction on many of the challenging situations future leaders of this highly lethal and rapidly deployable unit will face.

Part IV -- Conclusions

Adaptive Leader Training -- The Future Role

The significant challenges raised to the commanders, staff, and junior leaders of the IBCT during all portions of the adaptive leader training heighten the awareness of adaptive thought at all levels in the brigade. By the end of the SLC Capstone exercise, and the leader vignette training, the brigade leaders are clearly gaining an appreciation for the value of adaptive leadership within the dynamic operational environment of the IBCT. Although both programs have room for improvement, leaders at all levels are pleased with the results of the training, and respond during AARs that they would like to see the programs continued.

A contingency-based and responsive Army must place an enduring premium on a soldier that can work at any level within the spectrum of warfare. The vision of such a soldier, and the Army to which he belongs is one of leadership that is flexible and adaptive. These leadership traits can only become intuitive to our leaders through a system of education and training for both officers and noncommissioned officers that continues to be innovative, sequential, and extensively resourced at all levels of training throughout the transformational Army.

Not only must changes take place in our professional development schools but also in the very nature that leaders make decisions and delegate authority to subordinates. Instead of "parallel planning" based on warning orders between elements and the "1/3rd-2/3rd's rule," digital systems in the IBCT bring true parallel planning through near real-time collaborative planning on ABCS coupled with simultaneous orders publication to nearly every element in the IBCT with FBCB2 access. The ability of leaders to command and battle-track units in this environment requires new methods of decision-making and adjustments in leadership style. Senior leaders must be able to clearly share their intent while providing freedom of maneuver while subordinate leaders couple initiative within intent to achieve success at the tactical-unit level.

To successfully develop the Army's leaders beyond the capacity of the traditional C^2 role to a more responsive and adaptive leader is a difficult process, but one that must be undertaken. The Army Chief of Staff's vision statement says the following on leadership: ***"We are about leadership; it is our stock in trade, and it is what makes us different. We take soldiers who enter the force and grow them into leaders for the next generation of soldiers...."*** The importance of leadership development as stated by the Army Chief of Staff must continue to be the Army's "stock in trade," and the model of training being implemented in the Army's first IBCT is a sound investment in the trade of leadership. The Senior Leader's Course and leader vignette training clearly demonstrate the potential for seeding the roots of adaptive leadership within the IBCT, and must be continued. The ability of adaptive leaders within the IBCT to gain dominance while executing full-spectrum warfare is paramount to their operational success. Although adaptive leadership is sometimes considered an inherent trait of all good leaders, its continued emphasis throughout the U.S. Army is now a critical component for success within the IBCT's O&O concept.✪

Enclosure 1

Vignette Title:	Conduct Movement to Contact (011)
Echelon:	Infantry Battalion
Leader Skill:	Tactical
Target Audience:	Company- and Platoon-Level Leaders
Methodology:	Seminar/Small-Group Discussion

Vignette Instructor Guide

1. ***References:***

● **FM 22-100,** ***Army Leadership,*** August 1999, Chapter 4, Subj: Direct Leadership Skills, pp.4-47 to 4-48, Tactical.

● **FM 71-3,** ***The Armored and Mechanized Infantry Brigade,*** January 1996.

● **ARTEP 7-94-MTP,** ***Mission Training Plan for the Infantry Battalion,*** October 1989.

● IBCT O&O, 30 June 2000 (Final).

● IBCT SOP(s).

● IBCT Tactical References.

2. ***Purpose.*** This vignette is designed to stimulate leader discussions on conducting a movement to contact. Additionally, it highlights coordination requirements in a joint coalition and asymmetric environment.

3. *Instructions for Leader.*

a. This vignette is designed to assist in the development of sound judgment, understanding decision parameters of the higher commander, using creative thinking in problem-solving and recognizing the underlying short- and long-term issues that may impact a unit in this scenario. Small and large group discussions should develop innovative ideas and concepts to address the "non-standard" and/or "non-doctrinal" situations surrounding the situation presented in this vignette.

b. Prior to conducting this training, familiarize yourself with the contents of this vignette and the listed references. As appropriate, provide your training groups copies of excerpts from those references that you feel are especially relevant to your particular training objectives. As a minimum, have at least one copy of all appropriate references at your training location. You will also need to provide students copies of the training support material contained in the appendices accompanying this vignette.

c. Determine the training support materials you will need for your training, such as butcher paper, magic markers, overhead projectors, and ensure that all support materials are available at the training location.

d. Explain the purpose of the vignette and provide copies of Appendix A (Soldier Support Material), the reference list and/or appropriate excerpts to your audience. Using an overhead projector, butcher paper, or chalkboard, provide the scenario to your audience. Ensure that you provide them copies of appropriate supporting materials or that those materials are available for them to view. Read the first requirement to your audience, clearly stating the expected outcome(s) of their small group discussions. Provide the groups with start and end times for the requirement (can be adjusted if required). Issue points designed to generate discussion on this topic are provided in the requirement paragraph. The instructor has the option of either assigning selected points to specific groups, pick specific points for each group to address, or have each group address all discussion points (time

available may be a factor). Concluding large group discussions should highlight innovative concepts and/or strategies to properly address the issues presented by this vignette. This is an excellent opportunity for junior leaders to address leader issues one to two echelons above their positions.

e. Divide your training audience into small groups of leaders of equal rank or positions. Each group should discuss issues surrounding the situation presented in this vignette. In some cases, identification of 2d and 3d level effects is appropriate. It may be appropriate to appoint an individual within each group to be responsible for guiding the group through the discussion points and analysis of the situation presented by the vignette. (NOTE: This is a suggestion, NOT a requirement.)

f. After an appropriate time, reconvene into one large group and have a representative of each small group present its concept or approach for resolving the issue highlighted by the vignette and discuss the pros and cons of each group's concept. Concluding large group discussions should highlight the leader challenges embedded in this vignette and the dynamics of developing new and innovative solutions. The IBCT leader may use these discussions to enhance subordinates' understanding of his leadership style and preferences.

g. **KEY TALKING POINTS.** These talking points are provided to the instructor to supplement ideas and discussion points addressed by the small groups related to the issues embedded within this vignette.

- **Is each COA suitable, feasible, acceptable, distinguishable, and complete?**
- **What are the C^2 issues associated with the SMARC support to this mission?**
- **Which COA supports the integration of the SMARC considering the C^2 issues?**
- **Did you identify a reconnaissance objective for your Scouts?**
- **Does the restated mission statement support the higher commander's intent?**
- **Did you provide an initial intent to include decisive point?**
- **Did groups identify critical tasks and endstate (success)?**
- **Did each concept describe or provide guidance for the scheme(s) of maneuver?**
- **Did groups look at the deep, close (security and reserve), and rear integration of fires: task, target, effect, and purpose, anticipated decision points with related commander's critical information requirements (CCIRs)?**
- **Did groups identify requirements for a deception plan?**
- **Were tasks and priorities identified by a battlefield operating system (BOS)?**

h. **Optional Requirement.** After the large group discussion, and if time is available, pick one course of action and conduct a rock drill of this operation per the task organization and scheme of maneuver that was developed. At a minimum, we recommend you do the following:

- **Walk through the selected course of action. Allow leaders to learn by demonstrating.**
- **Address the roles and positioning of elements of the BOSs during your operation.**
- **Trainers can utilize a chalkboard or sand table. Check with the local TASC office to support other innovative Rock Drill ideas.**

Appendix A to Enclosure 1: Soldier Support Material

1. **Training Scenario: (See Annex A: Extract of Warning Order, and Annex B: Area Map).**

Today is D+2 and the 1st IBCT deployed as a part of a multi-national force to the port of Djibouti in response to a request from the host nation. CENTCOM and JFLC are concerned with the increased movement of troops along the Ethiopian border. The Meles' Tigray Peoples' Liberation Front (TPLF) has conducted a campaign of terrorist attacks on all major cities throughout Djibouti. The entire region of Djibouti has erupted into civil unrest because of these attacks. Intelligence estimates indicate that the TPLF is attempting to gain control of Djibouti to control the straight of Bab el Mandeb, a strategic asset that controls the entrance into the Red Sea and the Suez Canal. The terrorist organization could inhibit movement of U.S. forces into the Indian Ocean, hold OPEC oil exports hostage, and stop exports through the straight of Bab el Mandeb. The roads, to the north and east of the capital city of Djibouti, are clogged with 135,000 Djibouti refugees. The IBCT is presently in assembly areas around the Djibouti airfield. The battalion recently received a warning order to be prepared to conduct a movement to contact within 24 hours as part of a combined peace enforcement mission. A non-digitized Saudi Arabian Mechanized Rifle Company (SAMRC) has been placed under the operational control of your battalion. The JFLCC gave the brigade this mission at H+48 hours (D+2). JFLCC's intent is to quickly re-establish the international border and destroy any TPLF forces that oppose them in sector. The IBCT Commander is enroute to the battalion CP and requires a briefback on your concept for this operation.

The Saudi Mechanized Rifle Company (SAMRC) has deployed with 113 men and was just fielded with SINCGARS radios. (They have only used them in a single-channel mode.) Two Liaison Officers, a Djibouti Self-Defense National Army officer and a Saudi Arabian officer have already arrived at your Battalion HQ and the SAMRC is enroute to the battalion assembly area.

2. **Requirement.** In your small group, develop a concept of the operation and an operational sketch with which to brief the Brigade Commander. Be prepared to reconvene back into the large group to present your solution and/or approach and discuss the pros and cons of each group's approach. Some issues that each discussion group should address include, but are not limited to, the following:

a. Identify tactical requirements and schemes of maneuver appropriate for this type of mission and identify support and task organization requirements for your concept?

b. What does mission success look like?

c. What key facilities and locations must be secured for mission accomplishment and what support, if any, is required from the theater and host country?

d. How does the amount of time available impact the course of action?

e. How will you use the LOs provided to the battalion?

f. What is your Task Organization; how will you employ the SAMRC?

g. How will the battalion maneuver, and what types of tactical formation will it use?

h. You have approximately 24 hours available for planning and execution. How will you utilize your time, and how will you integrate the SMARC into battle drills and rehearsals?

i. What will the concept do, "shape" the battle space, or set conditions for decisive operations?

j. Do we secure the town using precise means or prepare for future operations to the border?

k. What systems could you use to gain a technological advantage and fix the enemy?

l. Is the movement-to-contact mission addressed in the battalion SOP?

m. What lethal/non-lethal effects are available to the battalion? How are they coordinated. How can they be used to set the conditions for decisive operations?

n. How will the battalion execute the targeting process?

o. How can the RSTA Squadron assist in the detection and assessment functions of targeting?

Annex A to Appendix A: Extract of JFLCC Warning Order

1. **Intelligence Update.** Paramilitary forces of the TPLF have crossed the Ethiopian border and have invaded Djibouti. One enemy battalion is located 20 kilometers northwest of the Yoboki, and 35 to40 kilometers from the Ethiopian border. The enemy's most probable course of action is to remain in the mountainous region and continue to ambush units along the MSRs and continue terrorist attacks upon key facilities. Paramilitary forces have attacked IBCT convoys as they returned to camp Djibouti at the IBCT HQ. Terrorist attacks have increased at the port. Today, a UAV was shot down in the vicinity of Yoboki by either a hand-held rocket or a small arms fire.

2. **Friendly Forces.** Joint Task Force Tadourja will provide four CH-46 Sea-stallions, 10 Blackhawks, and four AH-64s to support the IBCT's movements and provide logistical support from the port facility of Djibouti. The Naval Task Force will provide Naval Gunfire, and Harrier, and F15 support per the Air Tactical Operation cycle.

3. **Mission:** On order, 1st Battalion IBCT conducts a movement to contact to secure Objective Yoboki and block TPLF infiltration routes from the north. Enroute, locate and destroy TPLF forces in the sector. On order, reinforce CENTCOM peace enforcement units in the AOR and support Djibouti civil authorities in restoring order and humanitarian support activities.

4. **Specified Tasks:**

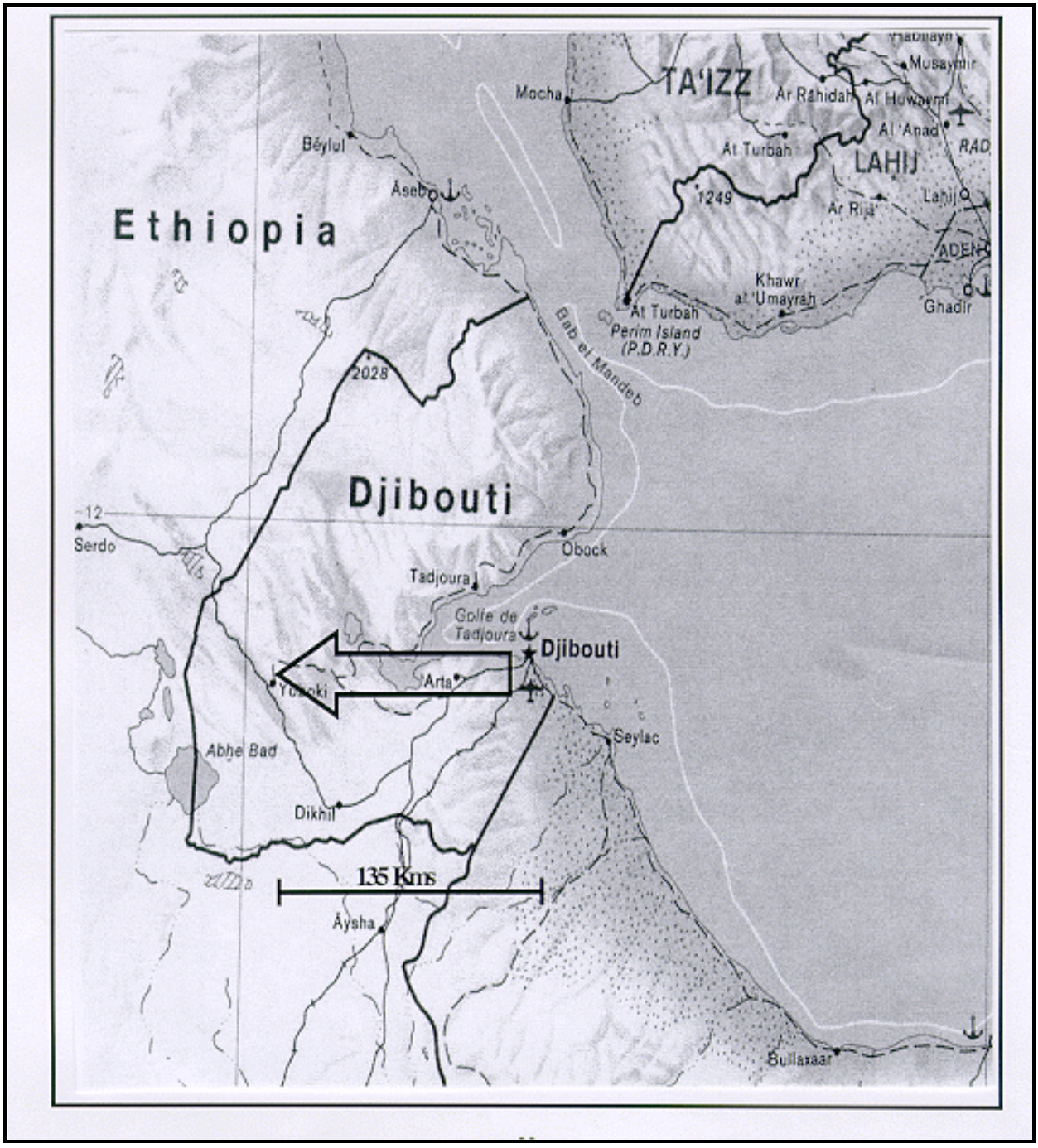
a. **1st Bn, IBCT conducts a movement to contact to secure Object Yoboki and prepares for future combat operations.**

b. **2d Bn, IBCT conducts a movement to contact to secure Object Dikhil and prepares for future combat operations.**

c. **3d Bn, IBCT initially IBCT reserve, on order, assumes mission of 1st Bn.**

d. **RSTA Squadron, screen left flank of IBCT movement.**

Annex B to Appendix A: Area Map



Digital Training -- What's the Big Deal?

by SGM (Ret) Larry DeRoche, Military Analyst, CALL

Part I -- Introduction

> ***"Training is the Army's top priority; it prepares us to fight. As leaders, our sacred responsibility is to ensure that no soldier ever dies in combat because that soldier was not properly trained."***
>
> **--General Carl Vuono, former Army Chief of Staff[1]**

Recent involvement in the Balkans, Africa, the Pacific and Southwest Asia have contributed to the Army's realization that it must develop dynamic command and control systems with presently available digital enhancements. Throughout today's Army, soldiers are exposed to a great number of digital systems as the process of fielding these advanced systems now takes hold. The Army Battle Command System (ABCS) suite consisting of the Maneuver Control System (MCS), All-Source Analysis System (ASAS); Force XXI Battle Command Brigade and Below (FBCB2), Advanced Field Artillery Tactical Data System (AFATDS), Air and Missile Defense Workstation (AMDWS), and the Combat Service Support Control System (CSSCS) are the first integrated generation of digital systems designed to gather and process information to assist commanders at each level in decisionmaking by placing more information at the hands of commanders and junior leaders faster than ever before. These systems are meant to facilitate transformation of units into more lethal and flexible forces, leading to enhanced situational awareness and understanding.

To achieve the capabilities required for the frequent full spectrum combat operations demanded of the Army, methods of successfully training on the new digital systems must be implemented throughout the transformational units. **BG Paul Eaton, Deputy Commanding General for Transformation, TRADOC, in an interview said, *"You understand the situation, decide what to do about it, and then attack in terms that are completely favorable to the IBCT company, battalion and brigade."*[2]** To do this, leaders must effectively and efficiently maneuver their units on the battlefield. To achieve synchronized maneuver, digital units must have proficiency with ABCS. This article discusses some basic designs of digital training currently in the Interim Brigade Combat Team (IBCT), and suggests patterns for improving this challenging process. This article will focus on the digital training required at the individual and collective levels to facilitate tactical success in the IBCT. Methods of building the digital skills to facilitate battle command and control for tactical success in the IBCT will be explored, with techniques to train on ABCS functionality without the expense of critical warfighting skills.

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[1] General Carl E. Vuono, Foreword, ***FM 25-101, Battle-Focused Training,*** 30 September 1990.

[2] Brigadier General Paul Eaton, Deputy Commanding General for Transformation, TRADOC, Interview by CALL Analyst at the BCC, December 2000, Fort Lewis, WA.

Digital Training -- Beginnings

Digital training, like all training, must have its roots firmly established in doctrine. Both FM 25-100 and FM 25-101 detail principles of training, all of which remain applicable to digital training. This article focuses on discussion of the principles of, "Train as a Combined Arms and Services Team," "Use Performance-oriented Training," "Train using Multiechelon Techniques," "Train to Maintain," and "Train to Sustain Proficiency" as they relate to digital training in the IBCT. All levels of training will be considered, including collective, leader, and soldier training. All must be completed successfully to develop digital expertise. Each level is an important piece of the process of converting an "analog" unit into a "digital" unit fully capable of leveraging its assigned technology.[3]

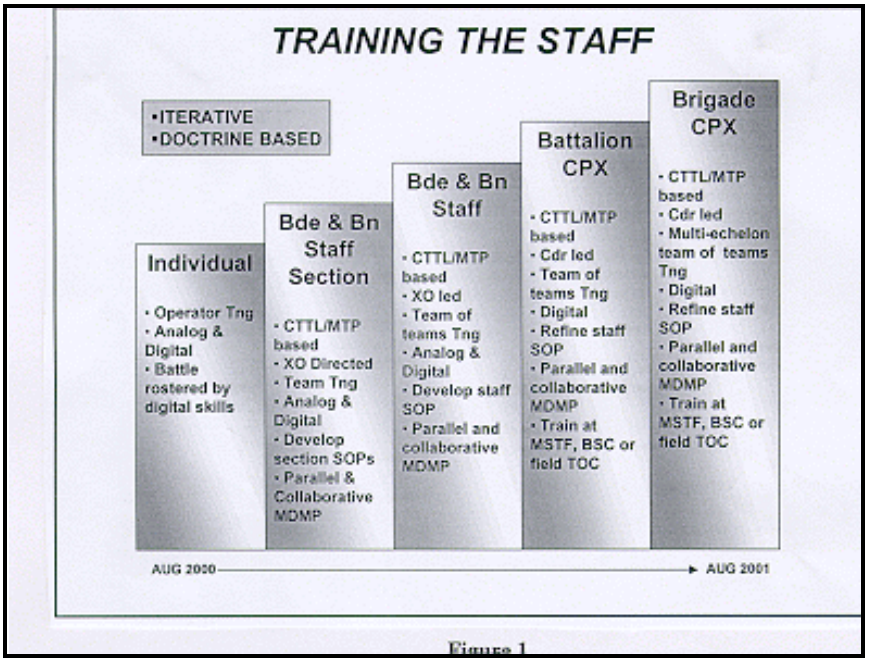

Figure 1

To meet the challenges facing the IBCT, the brigade leadership with assistance from I Corps, USAIS, TPIO-ABCS, and the Brigade Coordination Cell (BCC) developed a training plan to conduct digital training (see Figure 1). Although IBCT units have been heavily involved in equipping themselves to fight in the new Organizational and Operational (O&O) structure, the focus remains on training.[4] The brigade's emphasis in training is in two areas, New Equipment Training (NET), and Collective Tactical and Leadership Training. NET was the focus for most of last year, as new systems were established with over 30 13,700 of training since last May. Collective digital training was carried out concurrently, with the focus on Company Simulation Exercises (Company SIMEXs), Staff Section/Staff Training, and Leader Integration Training. This training schedule, however intense, was executed in conjunction with many of the normal training requirements of all Army units. The process will not stop, even once the IBCT achieves its Initial Operations Capability (IOC).[5] Digital training must continue to occur for newly assigned soldiers and leaders within the IBCT, until fully implemented as standard course material in TRADOC basic officer and enlisted schools.

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[3] An analog unit is defined as a unit that does not have the digital enablers, while a digital unit is one that possesses a full suite of digital systems and has been trained to operate them at all levels.

[4] The O&O is the Organizational and Operational Concept for the IBCT. It describes the organizations, operations, and capabilities of fully developed IBCTs.

[5] IOC is the period that the unit is scheduled to be ready for deployment.

Part II -- New Equipment Training (NET)

New Equipment Training began at Fort Lewis, WA, in March of 2000 and continues today. Training includes all of the ABCS systems, Delta training[6] on the ABCS suite, maintenance training, and leader training. NET training class length varies broadly, with FBCB2 Field Works training as one-half day and the AFATDS operator's course as long as 20 days. The effect of training on personnel management is immediately obvious, as the AFATDS training takes a soldier out of the unit for an entire month. The total cost to the 3d Brigade in soldier NET training as of February 2001 was 13,700 soldier/man days.

Since the FBCB2 system is currently the most prevalent system in the IBCT, and the format for training many of the ABCS components is similar, a study of its training program will be used as a guide for the discussion of digital training in the IBCT. The FBCB2 system is a digital, battle command information system that provides on-the-move, real-time command and control information to tactical combat arms, combat support and combat service support soldiers and leaders. FBCB2 supports situation awareness down to the soldier/platform level.[7]

Digital training for most systems is conducted at North Fort Lewis. The FBCB2 facility is composed of a pair of "barracks" each holding four classrooms capable of 10 students. Classroom design facilitates the collective training of one company's leadership from the company commander to platoon sergeants, or training of individual soldiers from any unit. The small size contributes to better learning by keeping a lower student-to-teacher ratio. Students are assigned a workstation that replicates their FBCB2 signature, with each FBCB2 maintaining its own unique IP address.[8] The realistic digital interface of the systems in training is critical, as it allows users to familiarize themselves with the system of IP addresses within the network, which is one of the key aspects of trouble-shooting the FBCB2 system during actual operations. This aspect of systems operation was recently seen during a battalion FTX at Yakima Training Center. Significant time was spent early in the exercise relabeling IP addresses allowing the systems to properly display their assigned location and unit.

The FBCB2 class trains in a white box environment.[9] The training is conducted on a commercial personal computer that has the software loaded into it to replicate the functions of an FBCB2 "green box" system. Once the training is complete, the students can operate an FBCB2 in an IAV or HMMWV. However, some soldiers of the IBCT struggle with system operation during field conditions. The soldiers are used to operating the systems in a white box environment, not in the field-hardened configuration. Soldiers within digital units must be transitioned to green boxes at the earliest opportunity. During the course, soldiers should spend one day on mounted FBCB2 systems to ensure a full transition to field systems.

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[6] Delta Training is training to supplement the operators with training on changes to the software specific to the system on which they are trained.

[7] ***Digital Operator's Guide for Company and Platoon Levels, revised for FBCB2, Version 3.2,*** March 2000.

[8] An internet protocol, or IP address, is code that identifies each FBCB2 system within the network.

[9] White box training involves the use of ABCS system software on a standard desktop computer not hardened for field use. Actual field-ready ABCS components are commonly referred to as green boxes.

An FBCB2 System in the Green Box Configuration.

Six NCOs currently run the brigade FBCB2 Installation Training Facility at North Fort Lewis, WA. The senior NCO and primary instructor is a Sergeant First Class. He is responsible for supervising all FBCB2 training that the brigade administers. The other five NCOs, the assistant instructors, are picked from the battalions in the IBCT to serve as the FBCB2 subject matter experts (SMEs) for their units. After successfully completing all FBCB2 training, they assist in instructing operator training, sustainment training and Delta training on the systems.

New Equipment Training Modules

Digital training on most of the systems is divided into modules. This allows students to break up the training into manageable segments. If all skills are not learned, the students retrain only on the specific areas needing more work. FBCB2 operator training consists of five full eight-hour days. The course is taught in nine modules, progressing from the basics and ending with an overview on how the system integrates with other ABCS components. Each of the modules leads the students along a skill path with specific gates that must be negotiated before moving on to the next module. With the small class size, instructors are able to ensure all students understand each module before beginning the next. Each module contains Terminal Learning Objectives (TLOs) to ensure established goals are met, with task-specific Enabling Learning Objectives (ELOs) also included.[10] The methodology of TLOs and ELOs built into the instructional design ensures operators learn the critical skills necessary for these complex systems.

FBCB2's Module 1 provides the foundation for the beginning of the training with the TLO of "provide administrative details, system components, reference materials and capabilities." The corresponding ELOs are the identification of administrative details, system components, and the capabilities of the system. The introduction provides a common understanding of how the system fits into a tactical scenario. This understanding of all potential users is critical, as it meets one of the TRADOC Commander's key design parameters for digital systems, the ability of commanders to synchronize combat power during the fight at the tactical unit level in the O&O environment.[11]

[10] Enabling Learning Objectives (ELOs) are subordinate tasks required to accomplish designated TLOs.

[11] During the TRADOC Commander's Conference on Transformation, 6-7 February 2001, Fort Lewis, WA, GEN Abrams, TRADOC Commander, specified "leadership and command" as the driving force behind how the IBCT will fight, and, thus, a critial design parameter of all components of successful transformation. GEN Abrams also stated another key design parameter was the synchronization of combat power, and that building systems to allow commanders at brigade and below to achieve this in the O&O environment is critical for success.

Module 2's primary focus is the TLO of "preparing the FBCB2 system for combat operations," with corresponding ELOs covering the areas of PMCS and messages. Some basic operational ELOs include conducting before operations Applique PMCS,[12] implementing the FBCB2 system preparation procedures, identifying the session manager screen area and functions, operating the system administration tools at operator level, employing the status tool, implementing the administration functions, and operating the map filter tool. This module gives the operators experience with the basic operation of the system. During Module 2, the operators also receive their first hands-on experience with one of the most critical components of the FBCB2, messaging. During this portion, some of the ELOs explored are performing message management using FBCB2, sending messages using FBCB2, and sending overlays using FBCB2. For each of the ELOs, the student must demonstrate the ability to perform the actions required within each ELO before moving on to the next module. Most of the operator's course is performance-oriented which provides the students the needed skills before entering the next module with the modules that follow based on the ability to perform the actions of the earlier modules.

Module 3 is the beginning of the tactical skills development with the TLO of "employs the FBCB2 system during movement operations." Corresponding ELOs are performing message management, preparing and sending messages using FBCB2, performing overlay management using FBCB2, and operating the map and navigation tool. During this module, the students are instructed in all aspects of displaying, creating, saving, editing, and forwarding messages and overlays. The system has within its software pre-formatted messages that require an operator to fill in the required fields to complete a message. Some of the formatted messages are SALT (Size, Activity, Location, Time), MEDEVAC, NBC1, Fire Mission, and SITREP. Students also learn that FBCB2 sends and receives OPORDs, FRAGOs, and free-text messages.[13]

Module 4 and 5 takes the soldier through tactical skills employment with the FBCB2. The Module 4 TLO is "employ the FBCB2 system, in preparation for an attack, while in an assembly area," with the supporting ELOs of employ the periodic reminders tool, line-of-sight tool, radio net join tool, and manage logistical and personnel reports. Four categories of digital C^2 messages are learned including alerts and warnings, joint support information, combat reporting, and mission planning information.[14] Module 5 focuses on the TLO of "employ the FBCB2 system during an attack" with execution of combat messages using FBCB2 as the corresponding ELO. Message focus in this module includes only messages for use during execution of operations such as the SALT, MEDEVAC, or calls-for and adjusts-fire messages.

Module 6 and 7 take the student through digital actions on the FBCB2 to facilitate actions on the objective, consolidation, and preparation for the defense. The TLO for module 6 is "employing the FBCB2 system during after action operations," and focuses on the performance of "digital maintenance" on the FBCB2 system. This does not include physical maintenance, but, instead, addresses the critical issue of information management within the digital system. With the amount of information that the ABCS suite of systems sends, it is important to clear message queues and logs of information that are no longer useful and made irrelevant by current events. Module 7 returns the operator to the tactical focus of preparing the unit for the defense, and building in control mechanisms to allow unit leadership to better facilitate C^2 of tactical forces through FBCB2 usage.

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[12] The Applique consists of the hardware (CPU, display unit, keyboard, connecting cables), and software (Solaris Operating System with $FBCB^2$ application) used to form the FBCB2 system.

[13] Free-text messages are nonformatted messages containing general information for any purpose.

[14] ***Digital Operator's Guide for Company and Platoon Levels, revised for FBCB2, Version 3.2,*** March 2000, p. 6-1.

Modules 8 and 9, the final modules, are standard for all digital systems training. The first is an After-Action Review (AAR) and end-of-course critique. The last module is a presentation of changes in the current version of software from previous versions. This has become a very important part of digital systems training, since most of the systems have frequent changes in software design and functionality, even over relatively short periods of time.

NET -- Lessons Learned

Digital vs Analog C^2

Throughout the execution of the FBCB2 training modules, many lessons learned were collected that are applicable not only to FBCB2 training, but all digital training in the IBCT. One common issue throughout NET on nearly all systems was the conflict between digital (FBCB2) C^2 and traditional (FM) C^2. The question of when is the right time to use the FBCB2 vs FM communications always arises. The Digital Operator's Guide for Company and Platoon Levels, revised for FBCB2 Version 3.2, states, ***"Commanders should not rely on digital communications alone. Digitalization does not eliminate the requirements for maps and FM communications. The decision to use FM vs FBCB2 depends on situation and unit SOP."***[15] Since this does little to answer the earlier question of when to use what form of communication, a review of the diagram in Figure 2 can clarify this issue.

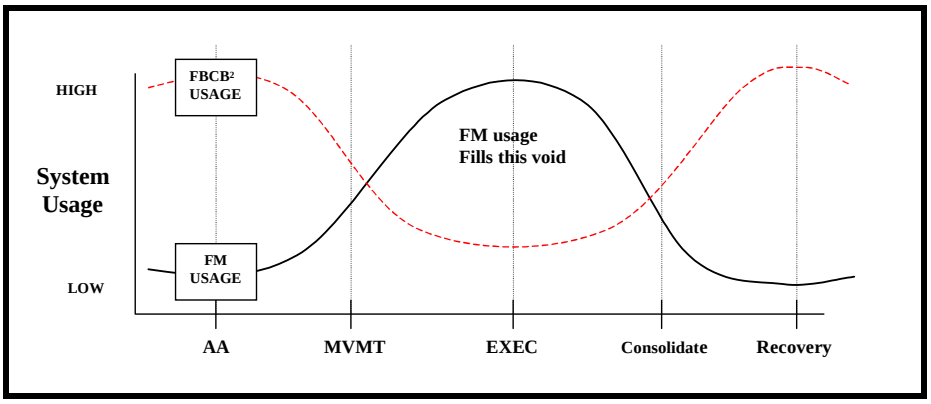

Figure 2. Mission Phases.

Each of the two curves depicts a method of communication to facilitate C^2 at the tactical unit level. As one can see, both FBCB2 and FM continue to be used throughout all phases of the operation, but at varying levels. During actions in the assembly area and recovery from operations, digital message use is at its peak. This facilitates the sending of large amounts of information including planning documents and detailed status reports in a timely manner to many recipients. As the operation enters the execution phase, digital systems are still used, but more commonly in the passive mode to maintain situational awareness, with FM used for active C^2. Of course the exact frequency and method of C^2 will depend upon specific unit SOP, but the diagram serves as a useful guide to those unfamiliar with the C^2 of tactical elements in the IBCT environment.

[15] ***Digital Operator's Guide for Company and Platoon Levels, revised for FBCB2, Version 3.2,*** March 2000, p. 6-1.

Message Management

Throughout all IBCT digital training, the importance of message management procedures within a digital organization were clearly proven as critical to ensure information flow and good situational awareness at all levels. Messaging is one of the key components of the FBCB2, and all ABCS as they provide the human interface to digitalization. Since staff planners, commanders, and operators use the systems to send frequent messages throughout the brigade, it is a challenge to maintain pace with the large number of messages. With this huge volume of message traffic within a digital unit, procedures to manage message traffic are critical to maintain control of the situation, and avoid "information overload."

Although the management of information in a digital brigade is challenging, solutions are available to improve communications flow. One key to message management is the prioritization of messages. Units must have and apply strict rules for users to follow as they categorize and send messages. By deciding ahead of time which messages are routine, priority, and immediate, messages will be read and acted upon by personnel in an appropriate and timely manner. Units must implement disciplined message-handling procedures within their SOP to ensure message traffic does not overwhelm the system. Digital system administrators must implement a system of message receipt replies so commanders can know that information is being read.

Another key to successful message management is the use of pre-set formatted messages whenever possible. This is critical because ABCS are capable of manipulating the data from these messages without human interface. Information from formatted messages is shared throughout the system, and automatically updates unit status reports. Someone must act upon free-text messages in the system, usually an operator at the destination, who enters the text into a formatted option in the system. The big advantage of formatted messages is that once entered, the digital systems help to compensate for human error since information is automatically updated and shared between systems. It is key that operators of ABCS at all levels understand the importance of formatted reports and be trained in their use, and leaders need to emphasize the value added of sending reports in message formats to their soldiers.

Maintenance Issues

Throughout the fielding and initial operation of digital systems, one area of constant concern to commanders has been the inability of unit-level personnel to repair and maintain the systems without the assistance of contractors. During company-level STX lanes, and the first-ever deployment of an IBCT RSTA and FA battalion, leaders throughout the organization voiced this continued concern over the lack of trained operators to maintain the digital systems. This typically did not have a large impact on unit operations, as contractors quickly responded to unit requests for maintenance support, but the unit support personnel considered themselves limited without the ability to "troubleshoot" the system themselves without contractor intervention.

The 31U FBCB2 Maintenance course was developed to train operators to trouble-shoot the FBCB2 systems on their own. The maintenance course covers some of the same functional areas of the operator's course; however, most of the time is spent with both physical and software troubleshooting on the systems. The class begins with a brief refresher on the general system operating characteristics, then progresses into software troubleshooting. After a day of several practical exercises, the students move into hardware troubleshooting and finish with several more practical exercises and an end-of-course examination. The examination is comprised of two parts, one written and one hands-on. Successful completion of the PEs is required for course completion.

The Maintenance Course Facility, Complete with FBCB2 Systems and Attached EPLRS.[16]

The importance of technical computer system and peripheral training in the digital environment cannot be overstated since the success of a unit in the digital environment is directly related to the amount and ability of its technical experts. Throughout the exercise, the "techies" were in great demand. Since the systems are being fielded, contractor support was abundant, and this provided great assistance to the units. Some of the units relied less heavily on outside support, and had their own cadre of techies to lean on when in need. The type of technical training and experience of these personnel is important to consider as a key factor in digital warfare success.

One of the most critical personnel was the signal officer. The young signal officers of the "computer generation" are in the greatest demand. Those units with signal officers lacking highly technical degrees rely more heavily on outside assistance. The three weeks of automation training in the Signal Officer Basic Course only introduces the complex and demanding world of systems' integration and automation. Automation training at the Signal Officer Basic Course should be expanded to prepare junior officers for their role within a digitized force. This specialty training may have become important enough to warrant a special MOS designation for officers with advanced degrees in this area, making it easier for the U.S. Army to assign them to positions requiring this expertise. Because of the complexity and criticality of digital systems in the IBCT O&O environment, these units must receive the priority for Signal Officers with technical computer degrees for placement as BN and BDE Signal officers.

[16] EPLRS is the Enhanced Position Location Reporting System. EPLRS is an integrated C^3 systems providing near real-time data communications with a data backbone network, and positive navigationl identification/reporting capability on the modern digital battlefield.

The NCOs and soldiers of the communications section played a key role, as they are doing the system management and operations. Most have the 31U MOS designation, with their military schooling being in tactical radio operations and support. Although many of these soldiers possess strong computer knowledge because of personal interests and increased automation in units, they still require more formal training for successful digital systems integration. IBCT units must maximize the use of training programs at installations and local colleges to educate soldiers on these systems. Many community colleges offer courses in TACLAN administration, CISCO routers, and Windows NT/UNIX. Training dollars spent on these programs will be a sound investment for the unit and for those soldiers attending.

Part III -- Collective Training

Digital collective training within the IBCT is another training priority. Individual training builds the skill set necessary to manipulate the system, while collective training develops the ability of units to fight the systems. Although both types of training are conducted concurrently in the IBCT, individual training provides critical inputs to some components of collective training. Digital collective training within the IBCT consists of company simulation exercises, staff section/staff training, and ABCS leader integration training. This section focuses on two areas of digital collective training, company simulation exercises and staff section/staff training.

Company Simulation Exercises (SIMEXs)

Company Simulation Exercises began in the Fall of 2000. The SIMEXs are conducted by executing a scenario at the company level within the JANUS simulations suite. The entire company chain of command including the commander, XO, platoon leaders, platoon sergeants, FSO and mortar section sergeant train on the plan, with support from the battalion and Mission Support Training Facility (MSTF) staff.[17] The company plans and executes a company-level tactical mission within the JANUS simulation, with the IBCT C^2 structure of FM and FBCB2 available to facilitate C^2 during the operation. The SIMEX is the first opportunity for the company-level leadership to experience the integration of digital and traditional C^2 within a tactical exercise.

The SIMEX provides a good opportunity for the company leadership of the IBCT to gain experience fighting the unit with the components of the new O&O Concept for the IBCT. Many units used training plans that were outside their comfort level, eliciting tactics, techniques, and procedures (TTP) specific to the IBCT O&O. One of the infantry battalions used the SIMEX as a training opportunity to develop their plan for conducting a company raid. The raid was conducted within a low-end Small-Scale Contingency (SSC) environment, and involved simultaneous execution against two separate weapons caches. This forced the company leadership to utilize the digital enablers to synchronize simultaneous takedowns of two geographically separate objectives. At one point during mission execution, the commander was able to better maintain synchronization through FBCB2. One platoon moved off of the designated route during movement to the objective. With the FBCB2 feed, the commander was able to recognize the platoon's misstep, and reorient them to the objective area. At the same time, he was able to adjust the movement pace of the other elements to maintain synchronization of the operation.

[17] The Mission Support Training Facility houses a large suite of ABCS to be used for training by the IBCT. The "full service/walk-in" concept provided at the MSTF has been one of the most frequent requests of digital unit senior commanders.

Staff Section Training/Staff Training

Digital staff section training and staff training are also conducted in the MSTF. Training at the section level is led by the staff section OIC (S1-S6 sections). The training is intended to develop the proficiency of the staff section while using the digital system specific to their battlefield functional area. This training gives the staff section the first opportunity to develop section SOPs using digital enablers to manage traditional requirements. Staff section training is necessary to develop individual staff sections to a level of competency for later integration into the collective staff planning process.

The staff section is given an order to lead them through the staff process causing them to perform their staff function while using digital systems. They use ASAS, MCS, CSSCS, AFATDS, and FBCB2 throughout the training. This was the unit's first exposure to digital information management. Information will come so fast and from so many different sources that they now face a training challenge to manage the flow within the battalion.

Following staff section training, staff training is conducted. This is the first opportunity for the IBCT staffs to train with all the ABCS systems at battalion level and higher. Staffs gather in the MSTF and are led through a series of planning gates by the staff. Staffs receive a road-to-war brief and are given a Training Support Program (TSP) to guide them through training execution.[18] They are issued an order causing them to initiate the traditional staff planning process. The primary objective for the training is the integration of the digital systems into the staff planning process. In most cases, the executive officer leads the training. The staff works through each step of staff planning including the MDMP. During this process, some units take the opportunity to draft most of their digital SOP.[19]

During staff training, one infantry battalion conducted the mission of defense. They were operating at the high threat end in the spectrum of warfare, executing a defense against a conventional enemy mechanized attack. The unit used JANUS and FBCB2 to "fight" a plan in the simulation environment. The digital enablers allowed commanders to better identify enemy vehicles through the creation of enemy icons in the system that all leaders in the unit could observe. The experience gained in the staff training clearly paid off during a recent battalion FTX in Yakima. During the squadron maneuver portion of the FTX, the unit set up a screen to stop enemy penetration of the area of operations. Subordinate leaders at company level aggressively input enemy data into the FBCB2 during the engagement, and the squadron commander and staff noted during the AAR how helpful it was that subordinate leaders had been trained to build enemy data into the database during tactical operations.

Collective Training – Lessons Learned

Digital C^2

The presence of the FBCB2 system throughout the battalion alters techniques of battlefield C^2 at all levels of the operation. The FBCB2 digital map with friendly force icons is the primary current operations digital source for the battalion. Since the graphical portrayal of the 1:50,000-map sheet is high quality, much of the planning is carried out on the map. During execution, as proven in the SIMEXs, FBCB2 eases battle command synchronization efforts for commanders of the tactical fight.

[18] The Training Support Package (TSP) is a series of documents designed for use as an instructional package. It includes the road-to-war brief, operations order, and guidelines for conducting the training.

[19] The digital SOP refers to the TACSOP within a digital unit.

The capacity to exercise true digital C^2 was tested using FBCB2. Leaders questioned if the company leadership could effectively command and control the unit using FBCB2. Initially, the unit sent nearly all information digitally, without success, as the system is not dynamic enough to provide the real-time feedback needed at critical moments in tactical command. Other units sent all messages via FM and used FBCB2 for situational awareness only. This crowded the FM net, and did not utilize the full potential of FBCB2. Over time, all company-level leadership learned that the best solution is to use a balance of both digital and FM methods. During planning, FBCB2 can speed information exchange, but during actions on the objective, FM must be used to maintain the dynamic flow of real-time information to all engaged elements.

Digital SOPs

Staff section training and staff training continued to highlight the importance of the digital SOP within the IBCT. Digital units must develop a digital SOP that addresses how the unit digitally performs those functions that it routinely performed in an analog mode. Units that attempted to conduct planning and battle-tracking without a separate digital SOP were not successful since systems were not integrated into the functions of the staff. Without a digital SOP, machine settings remain unchecked and bandwidth is consumed by repetitious and unnecessary system updates preventing the passing of important information. The development of the digital SOP must begin with the first collective training event conducted by a unit identified as fielding the new technology, and must continue as a part of all digital and field training during the intensive period before operational readiness is achieved. Brigades must aggressively develop their digital SOP at the earliest opportunity. Subordinate battalions and companies require the document to build their own SOP in the most cohesive manner possible.

Information Management

Digital enablers can create information management problems within the units. There is such a large amount of information available to commanders and to their staffs that information overload becomes a reality if processes are not implemented to control the quality of information shared. Staff officers and non-commissioned officers must be more than manipulators of the systems at their disposal; they must be masters able to successfully fight their subordinate units throughout the operational continuum with the assets at hand.

Part IV -- Sustainment Training

Sustainment training is the final step of good digital training. Without serious, scheduled and deliberate sustainment training, the skills developed in NET and the various collective training programs cannot be maintained. FM 25-100 states, ***"Put simply, sustainment training must sustain skills to high standards often enough to prevent skill decay and to train new people."***[20] Assuming that soldiers train to standard, they must exercise their skills regularly. Soldiers conduct physical fitness training daily; therefore, their physical conditioning does not atrophy, and their digital skills must receive the same attention.

[20] FM 25-100, p. 1-4.

Leaders of the IBCT Conduct "Delta" Sustainment Training in the MSTF.

One of the most important components of sustainment training is Delta training. Delta training is training conducted to ensure all leaders and operators are kept current of any software changes in the fielded ABCS components. Each time that the software is upgraded, the differences or Delta has to be trained to the unit personnel that learned an older version of software. One example of Delta training is the program to sustain users of FBCB2. Many of the operators in the IBCT learned on FBCB2, Version 3.1. Delta training is presently covering Version 3.3. The training is three days and conducted at the FBCB2 training facility. Similar Delta training is conducted for all of the ABCS as new versions of software are fielded.

Sustainment Training – Lessons Learned

Digital training is the foundation on which the IBCT builds its increased capability of lethality. Digital training allows units within the IBCT to leverage organic information technology to their benefit. But, this is only the first step. Digital training creates the ability to manipulate the system, not the ability to fight the system. FM 25-100 states, ***"Demand training standards are achieved."***[21] It is clear that Army leaders understand to train to standard, not to time. In digital training, without a complete and thorough understanding of a system, the operator cannot manipulate the system fully to leverage the information that the system is designed to supply to the commander, and training to standard becomes difficult. Additionally, without this complete understanding of the digital system, coupled with frequent sustainment training, the soldiers' skills can never develop fully. The figure below depicts soldier performance over time within a digital unit without frequent, high quality, sustainment training.

[21] FM 25-100, p. 1-7.

During the first period of digital training, the soldier begins to develop the skills and experiences to gain proficiency. But without sustainment training prior to the next formally scheduled collective training event, soldier skills degrade. When the users finally execute the next phase of training, they begin again at a low skill level, and build back to where they were following the first session. Of course, the longer the period between training blocks, the greater the decay. With this cycle, soldiers seem to always return to the level of proficiency developed at the end of the first training session, and have difficulty progressing beyond it (see Figure 3). To break this cycle, a "skills perishability" study must be conducted, to identify how much time can pass before operators begin to lose their basic skill set. Once this period is identified, sustainment training must be scheduled with previously trained operators before skills decline and a significant portion of material previously trained perishes. Once the optimal period of training frequency is published, digital training at all levels will improve.

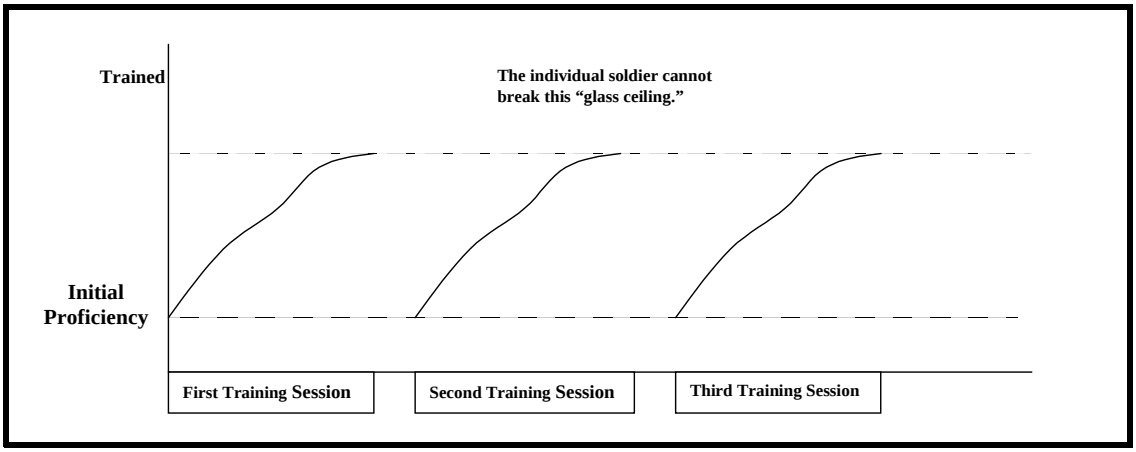

Figure 3.

Since ABCS Version 6.2 integrates all systems, sustainment training cannot occur only on separate systems. In the past, because of "stovepipe development" and the inability of the systems to "cross-talk," sustainment training could occur on only a single ABCS component without the interaction of the other systems. With the fielding of ABCSVversion 6.2, sustainment training can only be successful if executed in a more collaborative manner, with all systems working in the "Tactical Internet" environment as they operate while deployed.

Part V -- Conclusions

Although units throughout the IBCT are heavily involved in fielding new equipment provided by the O&O structure, the focus remains on training. Of this training, digital training in the form of NET and collective tactical and leadership training has been an area of significant focus. Over 30 systems requiring 13,700 soldier days of training was executed in a nine-month period. It is clear that transformation currently brings with it a heavy burden of NET. This is a concern of commanders as all levels, as they must not spend too much time on ABCS' functionality at the expense of critical warfighting skills. TRADOC's emphasis on shifting digital training to junior soldier and leader developmental courses (AIT, IOBC, BNCOC, ANCOC, Captain's Career Course) is necessary and greatly anticipated by unit commanders in the IBCT as they struggle to maintain maximum emphasis on warfighting skills.

ABCS Version 6.2 is revolutionizing the way the U.S. Army fights, and all involved in transformation must assist in drawing the conclusions for how this change impacts doctrine and methods of training. To best achieve this revolution in fighting, systems must continue to be pushed down to the unit level as soon as possible, as soldiers are surprisingly good at finding better ways to utilize and integrate systems than originally planned. One aspect of aggressive fielding to continue to follow is not to let equipment fielding or green box requirements slow the transformation process down. As the IBCT does today, white box training of systems must take place as substitutes whenever needed. Training at all levels, both individual and collective, must move forward toward full implementation of white box training and not be delayed for green box systems to arrive.

Lessons learned must be aggressively shared with the leadership of the IBCT, and not be "relearned." All involved in the process of digital training within transformation must focus on the impact on DTLOMS throughout all levels. Although ABCS and corresponding digital training is the "spine" of achieving successful integration, battlefield leadership and command must remain the driving factors for developing all IBCT digital training. Since the IBCT is an infantry centric organization, digital training must always be structured to provide the most dynamic support to command and control during the fight at the tactical unit level. If training does not better facilitate battlefield command and control, it must be reconsidered, at any stage of development.

The IBCT continues to make tremendous strides toward developing its individual and collective digital skills, and is on the "glide-path" to becoming a truly adaptive and lethal force. Soldiers and leaders throughout the IBCT clearly understand the importance of fully integrating digital systems into tactical operations to build the situational awareness required leading to the situational understanding key to success for the unit. This is visible in the pride displayed by operators and NCOs throughout the IBCT as they maintain digital systems and develop procedures to make systems operate better. Digital training is clearly a key component of this new unit's ability to operate in a multi-dimensional environment, and, with time, it will become a natural and constant piece of all critical warfighting training within the IBCT and the U.S. Army.✪

Preempting the Enemy --
HUMINT's role in Multidimensional Reconnaissance within the IBCT

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Part I - Introduction

Situational Understanding and HUMINT

To operate successfully as a full spectrum combat force, the Interim Brigade Combat Team (IBCT) maintains numerous key operational capabilities in its design. One of these is enhanced situational understanding (SU) and information superiority. In fact, the IBCT Organizational and Operational (O&O) concept states, ***"Situational understanding is the fundamental force enabler across all Interim Brigade Combat Team battlefield operating systems."***[1] With the importance of SU to the success of the IBCT paramount, all IBCT leaders must understand not only its definition, but also the enabling assets within the unit to achieve SU and its corresponding dominance of the battlefield.

This article studies one of the specific components of the IBCT's ability to conduct multidimensional reconnaissance to maintain critical SU, its robust human intelligence (HUMINT) capability. Within the conventional Army, commanders and staff have always been familiar with the traditional forms of reconnaissance: zone, area, and route. One unique characteristic of the IBCT is that it possesses the assets to conduct a fourth type of reconnaissance, known as multidimensional reconnaissance. Multidimensional reconnaissance (MDR) is defined as a directed effort to obtain specific information concerning the threat, populace, infrastructure, and terrain within an area. MDR expands on the traditional forms of reconnaissance by focusing soldiers on the local populace throughout the area of operations to assist in defeating or countering asymmetrical threats.[2]

Although the conduct of multidimensional reconnaissance within the IBCT includes all intelligence, surveillance, and reconnaissance (ISR) sensors in the IBCT, this article focuses on those that are unfamiliar to many leaders throughout the U.S. Army, and unique to the IBCT organization, the HUMINT assets of the unit. Since MDR is a significant contributor to SU for the IBCT during all operations, especially in Stability and Support Operations (SASO), as well as Smaller-Scale Contingencies (SSCs), methods of conducting MDR are important for all leaders within the IBCT to understand since they are critical to achieve mission success in the unit's operational environment. This article shares some of the basic operational capabilities of HUMINT assets within the IBCT and discusses TTPs for improved training and employment of the assets. This information will familiarize leaders with the HUMINT assets available to the IBCT and their methods of employment.

[1] IBCT O&O Concept, Version 4.0, 30 June 2000, p. 15.
[2] Draft **FM 17-96,** ***RSTA Squadron,*** 31 March 2000, p. 3-17.

Part II -- HUMINT Force Structure and Equipment

HUMINT Collection Agents in the IBCT

Reconnaissance Troop **--** One IBCT organization manned and equipped to conduct HUMINT operations is the reconnaissance troops of the RSTA squadron. Within this organization, it is the presence of the 97B, Counterintelligence (CI) agent that provides it with a marked increase in HUMINT-gathering capability over any previous battalion- or brigade-level asset. The significance of these 97Bs at the tactical level cannot be overemphasized to those unfamiliar with the IBCT organization, since the CI asset organic to conventional units at the squad tactical level is a capability unique to the IBCT, and one that is atypical in the U.S. Army.

The effects on the RSTA squadron of the assignment of 97Bs are significant. Within the RSTA squadron's three reconnaissance troops, each six-man squad is assigned one 97B soldier (see Figure 1), with the troop and platoon headquarters each containing one 97B NCO. This radical addition of 97Bs to the unit's organic manning places over 36 CI agents forward deployed with the RSTA troops at the lowest tactical level. This permanent presence of trained intelligence-gathering agents in an organization that is most likely to be the farthest forward element of the IBCT at the tactical level provides an intelligence-gathering capability unmatched by any conventional force. With the presence of 97Bs in the RSTA troop, HUMINT-gathering operations are now a sustainable and routine aspect of every reconnaissance operation. This is a stark contrast to the days of past when HUMINT assets from division level would be tasked to provide support to tactical operations only when planned in advance and normally on infrequent occasions.

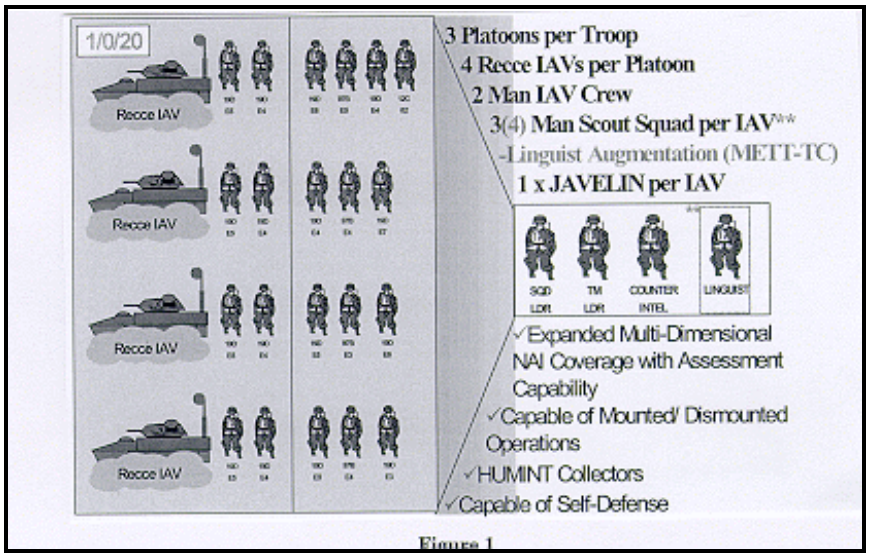

Figure 1

HUMINT Platoon **--** The second source of HUMINT-gathering capability within the IBCT is the brigade's HUMINT platoon. The HUMINT platoon is an element of the brigade military intelligence company, and is not a part of the RSTA squadron. Since it frequently supports RSTA operations and maintains a command relationship of administrative control to the squadron, its leadership is currently rated by the RSTA squadron chain of command. The primary intelligence-gathering arm of the HUMINT platoon is maintained within its four tactical HUMINT teams, each consisting of three 97Es (HUMINT collector) and one 97B (CI agent). Once deployed, the teams report their information to an operational management team (OMT), which collates intelligence data gathered by the tactical teams. The information is then passed on to the brigade S2X section for further analysis and integration into the brigade's collection plan.[3]

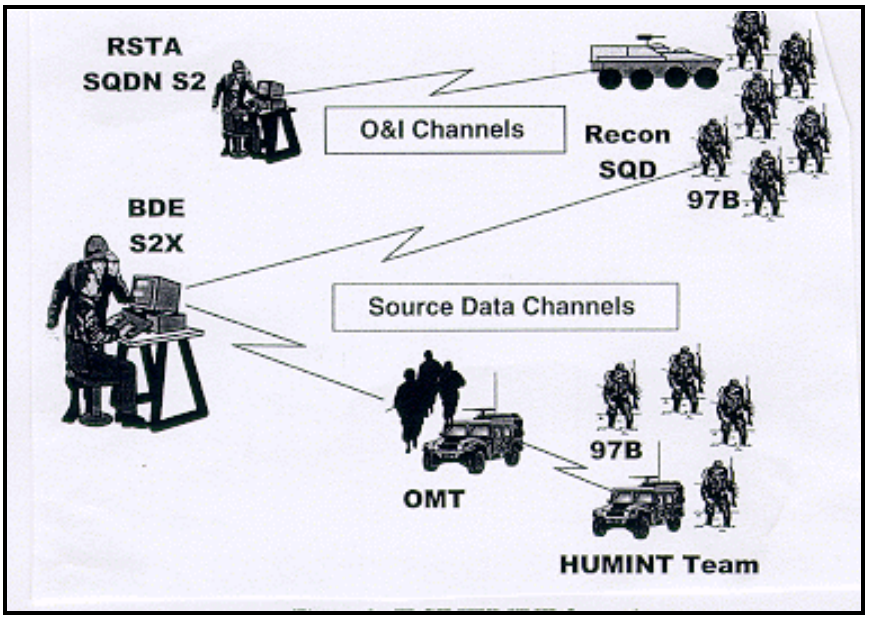

Figure 2. IBCT HUMINT Operations

C² **--** Not only are the operational HUMINT forces unique to the IBCT, but their controlling agencies are as well. Within the RSTA squadron, information gathered in the field is shared with the squadron S2, through the operations and intelligence channels similar to communications traffic in current Army units (depicted in Figure 2). The dissimilar and noteworthy characteristic of the IBCT's communication network for HUMINT data flow is the transmission capability of the 97B at the reconnaissance squad level. The 97B with the reconnaissance squads passes HUMINT intelligence information to the S2X cell collocated with brigade through separate source data channels using the Individual Tactical Reporting Tool or CI/HUMINT Automated Tool Set (discussed in the following section). This allows not only the RSTA squadron S2 to receive information directly from the deployed squad, but also the brigade's S2X, the primary staff agency responsible for all HUMINT collection operations in the brigade area of interest, to receive key HUMINT information as well.

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[3] The S2X section is a unique addition to the IBCT O&O not previously seen in other units. The S2X is responsible for the planning, tracking, and execution of all HUMINT-gathering operations throughout the brigade's area of interest. The section is made up of an intelligence officer (MAJ), a CI technician (CW2), a HUMINT technician (CW2), and interrogator (SGT), and a CI agent (SPC). The section normally is located in the brigade main CP, and not only coordinates all of the brigade's HUMINT collection activities, but also interfaces with external sources as well.

S2X **--** The presence of the S2X section is a notable design change possessed only within the IBCT force structure, and has significant positive impact on HUMINT operations throughout the IBCT. No longer does a small cell from division augment the brigade or battalion to conduct HUMINT operations. They are now controlled and maintained by a dedicated organic brigade staff section. The S2X cell maintains the primary role of developing a HUMINT collection plan that supports the overall intelligence collection plan of the brigade. The S2X cell works closely with the brigade S2 and operations staffs to ensure HUMINT operations are relevant, synchronized, and supportive of the overall operations plan of the IBCT. The S2X has a close working relationship with the HUMINT platoon because the S2X belongs to the same company in the brigade. The S2X also maintains staff supervision over the 97Bs in the reconnaissance troops, and integrates the information gathered by the reconnaissance squads during tactical operations into the overall HUMINT database at brigade for evaluation and dissemination.

HUMINT Collection Equipment in the IBCT

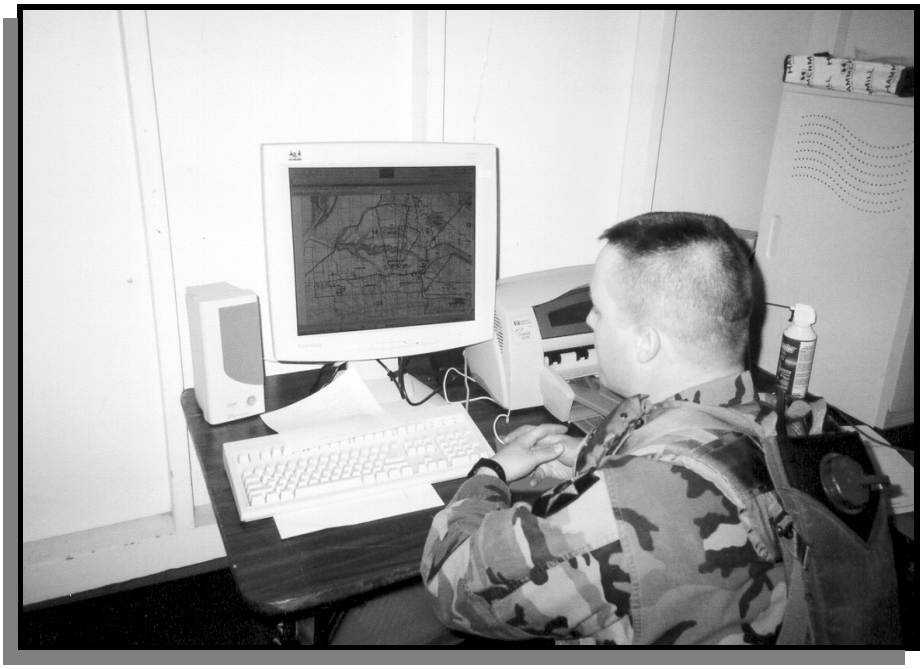
In addition to the unique manning which bolsters the HUMINT capabilities of the IBCT, the unit also maintains a large suite of HUMINT collection tools from squad to brigade level. The systems utilized are components of the CI/HUMINT Information Management System (CHIMS) architecture. One system used by the 97Bs in the reconnaissance troops is the Individual Tactical Reporting Tool (ITRT), or AN/PYQ-8. The ITRT is designed to receive, process and store messages and digital imagery providing reconnaissance squad soldiers the capability to collect, process, and disseminate HUMINT information of immediate tactical value during operations. It is the entry-level device used at the lowest unit level to input HUMINT data into the CHIMS architecture.

An Individual Tactical Reporting Tool (ITRT), or AN/PYQ-8.

The system most frequently used by the TAC HUMINT teams and the reconnaissance platoon and troop headquarters is the CI/HUMINT Automated Tool Set (CHATS). This system is maintained by the HUMINT NCOs assigned to the troop headquarters in the RSTA Squadron, the TAC HUMINT teams, and the OMTs within the brigade's HUMINT platoon. The CHATS system allows these elements to receive, process, and edit information collected prior to sending it to the S2X. Both the ITRT and the CHATS are compatible with current and future IBCT communications systems. The systems communicate over the Mobile Subscriber Equipment (MSE) Tactical Packet Network and Local Area Network (LAN), the Trojan Spirit Network,[4] and the Single-Channel Ground and Airborne Radio System (SINCGARS). This provides soldiers the capability to send and receive intelligence data, even classified information if required, while deployed anywhere within the area of operations.

[4] The Trojan Spirit, or AN/TSQ-190V, is a communications terminal used in the transmission of imagery, weather, and terrain products. SPIRIT is an acronym for Special-Purpose Intelligence Remote Integrated Terminal.

Another unique HUMINT tool, and one only in use in the IBCT, is the Counterintelligence and Interrogation Operations Workstation (CI&I Ops WS). This is the primary system used by the S2X to edit, integrate, and disseminate HUMINT data throughout the brigade. It is considered the "HUMINT All-Source Analysis System" of the brigade.[5] The system is very dynamic in that it is not only able to communicate with all subordinate ITRTs and CHATS within the brigade, by sending and receiving information from them as required, but it can also share information with the remote workstations of the brigade's All-Source Analysis System (ASAS). This allows it to share overlays and information available to staff planners of conventional intelligence channels. The CI&I Ops WS provides the S2X cell the unique capability of organizing and tracking HUMINT data similar to the manner of local and federal criminal investigative agencies. The system allows users to build link diagrams of key individuals throughout the area of interest using the program "Crimelink." The Crimelink software allows the S2X to maintain a website of HUMINT data available to staff planners, commanders, and subordinate elements with access to any component of the CHIMS system.



A Brigade S2X Section Analyst Reviews HUMINT Data Templates on the CI&I Ops WS.

[5] The All-Source Analysis System (ASAS) is an automated intelligence processing and dissemination system. It provides all-source intelligence fusion, allowing commanders and their staffs to gain timely and comprehensive understanding of enemy deployments, capabilities, and potential courses of action. It also provides operations security support, and aids in deception and counterintelligence operations.

Part III -- Building HUMINT Capabilities in the RSTA Troop

Counterintelligence Agents and Scouts -- A Powerful Mix

During the development of the IBCT O&O concept, analysis indicated that the expected operational environment requires a robust HUMINT capability.[6] This is due to the importance of understanding not only what is happening, but also why. To achieve this desired level of SU within the IBCT, the RSTA Squadron must see, know, and understand the operational environment in great detail. It is this required level of detail necessary to achieve operational success for the IBCT that led to the decision to the positioning of 97B/Counterintelligence soldiers in the RSTA troop at the squad level.

To prepare for their role within the RSTA troop, newly assigned 97Bs receive three months of cohort training at Fort Huachuca, AZ, in addition to their normal AIT course. During this training, the soldiers not only learn more about the specifics of HUMINT collection in the IBCT, but they also have the opportunity to sharpen their common soldier skills prior to assignment to a tactical element in a combat arms battalion. Upon arrival to the IBCT unit, the soldiers are integrated in to the RSTA troop platoons like all other soldiers, the only difference being their MOS of 97B instead of 19D/Scout.

HUMINT Integration Training within the RSTA Troop

Although the 97Bs assimilate quickly into the RSTA Troops, the need to better educate junior leaders within the troops on their functionality is evident. The 97Bs are more than willing to carry their "fair share" of the burden during conventional reconnaissance missions, and their ability to do so is not in doubt. What is in question is the ability of the junior leadership of the RSTA troops to effectively utilize the 97Bs assigned to them. This is an issue that cannot go unresolved, as the HUMINT-gathering skills of the 97Bs are key to the IBCT's ability to gain critical SU across the brigade. Even with the presence of first-rate leadership within the reconnaissance troops, platoons, and squads, many of these junior leaders with armored cavalry and scout backgrounds do not fully understand the 97B's capabilities. Because of this lack of sufficient HUMINT training present among RSTA junior leaders, critical opportunities to gather needed HUMINT at the tactical level is frequently missed.

Having recognized this training deficiency, outstanding company-grade leadership of the IBCT planned and executed a four-day HUMINT-focused exercise. The event furnished the needed training base on HUMINT operations within the RSTA troop. One objective of the event was to provide the leadership within the RSTA troops a basic understanding of HUMINT operations, and the capabilities of the 97Bs. Another objective was to provide the leaders and soldiers in the RSTA troop an opportunity to conduct a HUMINT exercise, putting into practice some of the skills of the 97B. The POI consisted of various HUMINT topics, and was prepared by the RSTA troop 97B NCOs, the brigade HUMINT platoon, and the brigade S2X section. To maintain maximum credibility of the 97Bs at the troop level, most of the classes were taught by the senior 97Bs assigned to the company and platoon headquarters of the troop. The training event began with classroom instruction, and progressed to a practical exercise (PE) in field conditions. The brigade HUMINT platoon officers and NCOs, as well as the S2X cell, provided oversight during all phases of the event, since leaders within these elements possessed deep backgrounds in HUMINT operations, and were able to provide a significant level of expertise and experience to the instruction.

[6] IBCT O&O Concept, Version 4.0, 30 June 2000, p. 15.

The first two days of instruction focused on defining the capabilities and role of the 97Bs within the reconnaissance troop. The instruction began with a CIA case study on HUMINT operations in Somalia. The case was a classic "real-world" example of the value of CI personnel at the small unit level during combat operations. The case focused on CI agents supporting an infantry company tasked to locate weapons caches in a village outside of Mogadishu. Because of thorough analysis and good HUMINT collection techniques, the CI agents were able to provide the key information leading to discovery of one of the largest enemy weapons caches of the conflict. The case caused everyone to think about the value of the CI soldiers on the battlefield, and how they interact with ground tactical units.

Following the case study, soldiers began a class defining all aspects of CI operations. Detailed explanations of the skills learned by the 97Bs assigned to the troop were covered including intelligence/investigative law, doctrine, interpersonal skills, interviewing skills, terrorism analysis, surveillance/deception techniques, and report writing. After reviewing the training background of the 97Bs, the instruction explored various HUMINT collection operations that the soldiers were likely to conduct (see Figure 3). The POI also defined multidimensional reconnaissance (MDR) within the RSTA, discussed the criticality of its execution, and the role HUMINT assets played within MDR.

Figure 3. HUMINT Collection Operations.

- **Combating terrorism support.**
- **Rear operations support.**
- **Civil-military operations support.**
- **OPSEC support.**
- **Information operations support.**
- **Civil disturbance support.**
- **Local operational data collection.**
- **Debriefing and interrogation.**
- **HUMINT threat assessment.**

-- FM 17-98-2

Once the members of the reconnaissance platoons gained an understanding of the training base and capabilities of the 97Bs assigned to their platoons as well as the importance of HUMINT gathering to IBCT success, they received instruction on the more specific roles of the 97B within their own tactical reconnaissance squads (see Figure 4). It was at this point in the instruction when all members of the RSTA troop learned the importance of "tactical questioning." Tactical questioning is defined as, ***"The abbreviated form of interrogation or debriefing used to collect PIR-related information from human sources."***[7] Tactical questioning is considered one of the 97B's most valuable skill sets, and is especially critical to these soldiers assigned to the reconnaissance squads, as it is their primary and most frequently used HUMINT-gathering method. The instruction covered far more than the definition of tactical questioning, detailing all types of questions, including direct, follow-up, repeat, non-pertinent, and prepared. Principles of good questioning and topics to be avoided were also covered. At the end of the session, experienced HUMINT soldiers conducted demonstrations of good tactical questioning, and soldiers rehearsed in preparation for the PEs conducted during the FTX.

[7] Draft **FM 17-98-2, *Reconnaissance Platoon Operations,*** February 2000.

Another reconnaissance HUMINT mission requiring extensive training during the POI was document exploitation and evacuation. In addition to tactical questioning, this is another key skill, as it will often be the forward elements of the RSTA troop who come into contact with pieces of recorded information. Through the proper actions of the members of the reconnaissance troops, data with intelligence value can be passed to higher headquarters for analysis and may provide critical input to IBCT situational understanding. Soldiers learned to appreciate the value of Document Evacuation and Exploitation (DOCEX) at the tactical unit level. DOCEX is defined as ***"Any piece of recorded information, regardless of form, obtained from the enemy, which subsequently comes into the hands of a friendly force."***[8] During this portion of the POI, soldiers learned how to categorize, screen, summarize, and report documents of immediate tactical value.

Figure 4. Reconnaissance HUMINT Missions.

- **Elicit information from the local populace.**
- **Interrogate EPWs and Detainees.**
- **Debrief Allies and U.S. personnel.**
- **Document exploitation.**
- **Threat vulnerability assessments.**
- **Source screening operations.**
- **Spotting/assessing for Tactical HUMINT Teams.**

One key aspect of HUMINT operations discussed throughout the training was "source operations," or relying on non-unit personnel to provide information of value to the unit. HUMINT collection is the use of human intelligence assets and methods to obtain information that answers the commander's PIRs, and source operations are the backbone of HUMINT collection operations in the IBCT. Source operations studied at the troop level include casual sources, official sources, and recruited sources.[9] Soldiers of the reconnaissance platoons learned overt methods of eliciting information from potential sources, while maintaining security of the force and Essential Elements of Friendly Information (EEFI) as well. During the training, soldiers had the opportunity to practice these skills during tactical questioning scenarios supervised by the senior 97B NCOs and S2X personnel. The methods taught provoked thought, discussion, and ideas of conducting the MDR mission at the troop level in the most secure manner, minimizing exposure of intent, methods, and team makeup.

Following two days of classroom instruction, the RSTA troop personnel road marched to a field location to conduct the practical exercise portion of the HUMINT training event. The S2X and HUMINT platoon leadership wrote a scenario for a mock village which the RSTA troop used to conduct MDR. NCOs from the HUMINT platoon played the roles of the characters in the scenario. Roles ranged from members of the guerilla opposition who were running weapons to local farmers, to neutral villagers who were only a distraction. With the most trained HUMINT soldiers in the brigade as the role players, techniques of tactical questioning conducted by the reconnaissance squads were easily given positive or negative reinforcement.

[8] **STANAG 2084,** ***Handling and Reporting of Captured Enemy Documents.***

[9] A "casual source" is defined as someone who by social or professional position has access to information of intelligence interest, but has no obligation to communicate with our forces. An "official source" is a liaison with foreign/domestic intelligence, security, or law enforcement agencies, host-nation officials, allied forces, NCOs with no benefit. "Recruited sources" include personnel recruited by friendly forces to provide timely and accurate force protection information. The 97Bs at the troop level will not usually have contact with "recruited sources." If utilized, these sources will most likely interact with the brigade's tactical HUMINT teams of the HUMINT platoon.

Following an assessment of area security, and conventional tactical reconnaissance techniques, the RSTA troop moved into the HUMINT collection phase of their MDR collection plan. Elements of the reconnaissance troop moved into the village while maintaining communications with security elements outside the village. Soldiers had the opportunity to practice tactical questioning and rapport building techniques while in the village. Propaganda flyers were available to provide soldiers the opportunity to practice DOCEX skills learned during the classroom portion of the event. Upon completion of the HUMINT-gathering mission in the village, units moved to a secure location and collated information, wrote reports, and transmitted the data on a CHATS station to the S2X personnel. This portion of the exercise provided reconnaissance squads the opportunity to transmit HUMINT reports through the CHATS/SINCGARS interface in field conditions, a critical skill for success of the operation.

RSTA Troop HUMINT Training -- Lessons Learned

The HUMINT training conducted with the RSTA troop was a noteworthy success. Soldiers and leaders in the RSTA troop gained a better understanding of the capabilities of the 97Bs assigned to their unit, and were given the opportunity to utilize the CI personnel into operations beyond conventional tactical reconnaissance. The junior 97Bs in the squads appreciated the training, since it highlighted their skills, many previously unrecognized in the platoon. The overall structure of the training was well done. The case study at the beginning of the POI was interesting, and successfully sparked the chain of thought and questions in the unit on HUMINT operations. Using the S2X and HUMINT platoon leadership to oversee the exercise provided a solid base of experience, and ensured that the training remained focused on tactical HUMINT operations most applicable to the IBCT.

Following the classroom instruction with a two-day HUMINT FTX gave the soldiers in the RSTA troops the opportunity to practice their tactical questioning skills. Inexperienced soldiers were able to observe the 97Bs at work, and then later conduct the tactical questioning themselves. The presence of HUMINT-trained NCOs as the role players provided a realistic scenario. The NCOs were experienced at staying in character, and were able to "guide" the soldiers doing the questioning to provide a better training experience. The role players also had the skill to make the event more difficult for the experienced 97Bs, maintaining a quality training event for all involved. Ending the exercise with the transmission of collected data over tactical field communications provided a level of realism to the event and validated an important and perishable skill set for the squads.

The RSTA troop HUMINT training also exposed some areas needing more emphasis within the squadron. With the amount of new equipment training required in the IBCT to stand up digital systems, coupled with the normal requirements to maintain tactical proficiency, the 97Bs in the RSTA platoons have little time for their MOS sustainment training. Although these soldiers are trained in the basic skills of CI agents, they do not have the depth of experience of the NCOs assigned to the RSTA platoon or company headquarters, or to the brigade HUMINT platoon. Company-level leadership in the RSTA troop and brigade MI company devised some solutions to increase the capabilities of the junior 97Bs at squad level. CI training is now scheduled for the 97Bs two to three times per month, with the CI NCOs assigned to the platoon and company headquarters carrying out this additional training. The CI NCOs in the platoon headquarters are also taking a more active role in the development of the young CI soldiers assigned to the squads by conducting counseling of the 97Bs in addition to their direct chain of command. Additional mentoring is provided during training events as well. During the execution of "presence patrols" by the RSTA troop, CI NCOs frequently travel with the forward elements to assist the junior soldiers at the squad level in conducting HUMINT operations. Because of the common MOS of 97B, CI soldiers of the reconnaissance troops often conduct soldier common task training with the HUMINT platoon.

Of all aspects of the HUMINT training in the RSTA troops, the most apparent was the recognition by the 19D scouts at platoon and squad levels that the 97Bs are truly an added capability, and not just "MI guys" standing in the way of tactical operations. By providing a thorough understanding of the capabilities and roles of the 97B, and the overall importance of HUMINT operations to the success of the RSTA squadron, the 19D soldiers and NCOs of the troop grew to appreciate the presence of these soldiers. During the field portion of the training, the 19Ds gained respect for the 97Bs when they observed them very adeptly interacting with the local populace and completing quality HUMINT reports. Success was proven during a battalion-level FTX in Yakima two months later, when the HUMINT collection and the skills of the 97Bs became a routine part of planning and execution at the platoon and squad levels in the RSTA troops.

Part IV -- Building Capabilities in the HUMINT Platoon

Multidimensional Reconnaissance and the HUMINT Platoon

Although the reconnaissance squads of the RSTA troops conduct multidimensional reconnaissance (MDR), much of their work remains in the more conventional methods of reconnaissance based on the combat arms focus of their organization. The HUMINT platoon of the brigade's military intelligence company is an organization whose primary role is to conduct the more unconventional aspect of MDR for the brigade. The HUMINT platoon is primarily focused on "source operations," and spends the majority of its effort gathering HUMINT data against the HUMINT collection plan of the brigade S2X. While the brigade S2X section is busy integrating information sent to it by the OMTs of the deployed Tactical HUMINT (TAC HUMINT) teams and deconflicting efforts with outside sources, the TAC HUMINT teams continue to meet with sources to build the information required in the S2X's collection plan.

The TAC HUMINT teams of the platoon operate in one of two configurations as they carry out their mission of gathering HUMINT to build situational understanding in the IBCT. They operate in the general-support (GS) mode, remaining under the control of the brigade's S2X and the operational management teams (OMTs) of the HUMINT platoon. When configured in this manner, they will report directly to the OMTs and S2X who are most likely collocated at the brigade Main CP. The TAC HUMINT teams also operate in the direct-support (DS) mode, attached to subordinate battalions to provide an additional capability as they collect HUMINT against an Infantry battalion or RSTA battalion collection plan. While in the DS mode, the controlling OMT of the HUMINT platoon designated to gather the collected data from the TAC HUMINT team will most likely be collocated with the battalion or squadron S2 cell, and have the additional responsibility of passing information on the S2X section which is located in the brigade main CP (see Figure 5).

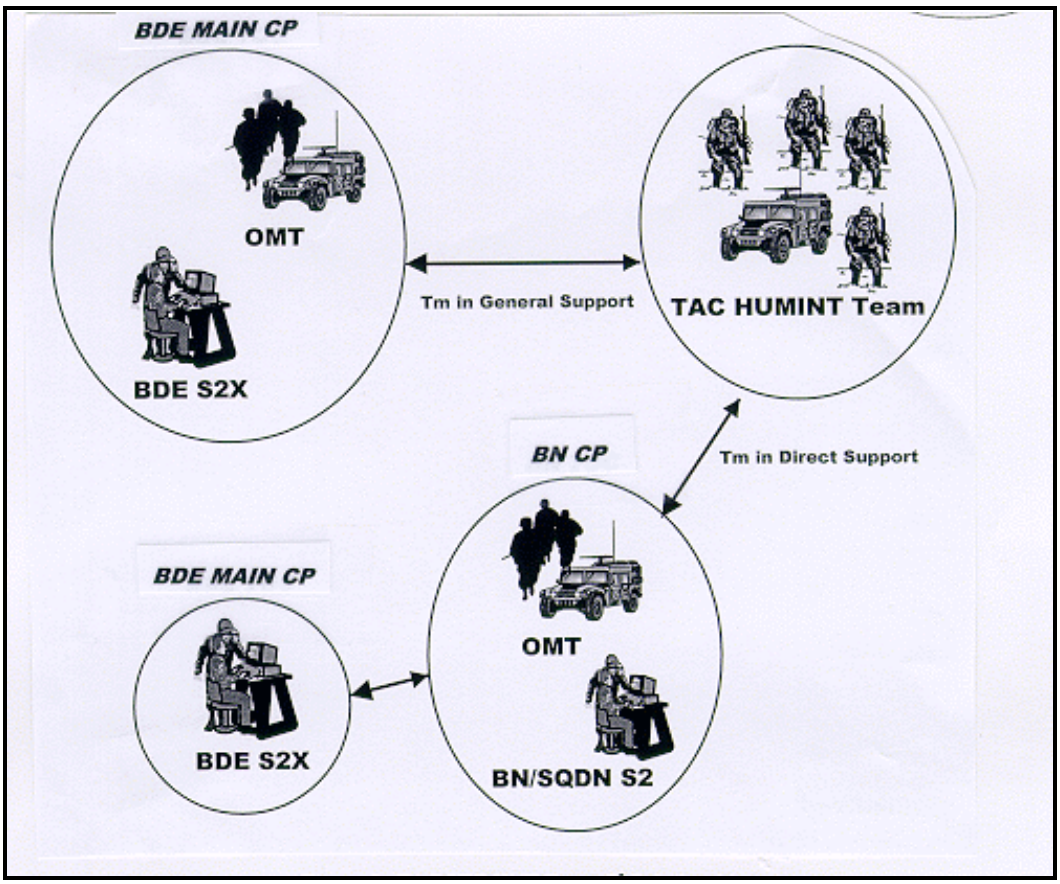


Figure 5. TAC HUMINT Team C^2 Relationships.

HUMINT Platoon STX

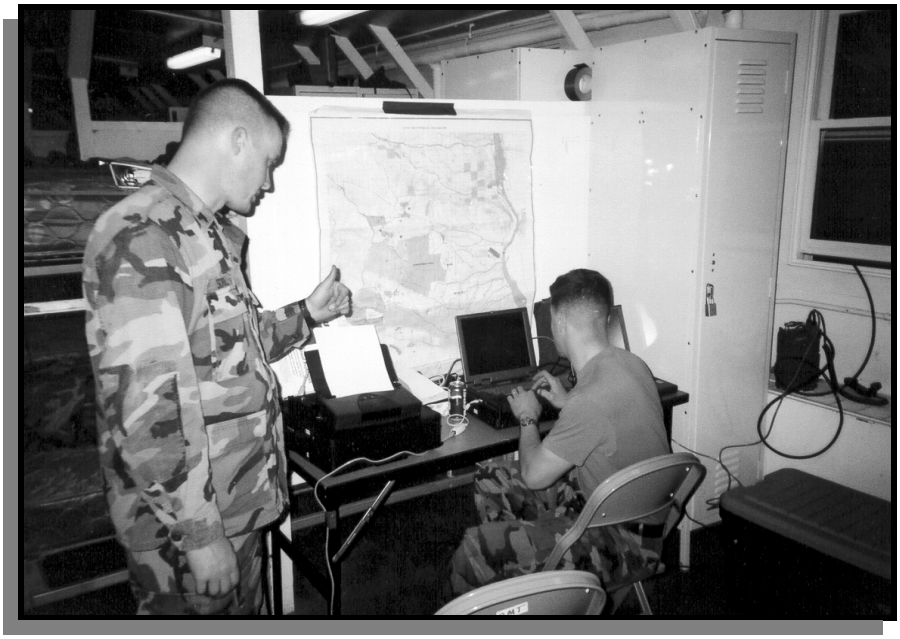
To prepare the TAC HUMINT teams for their challenging role within the brigades MDR effort, the leadership of the S2X and brigade HUMINT platoon developed a series of HUMINT platoon situational training exercises (STXs). One STX was conducted during the IBCT's first deployment of battalion-sized elements to the Yakima Training Center. The S2X and HUMINT platoon leadership developed a detailed scenario of a fictional country containing a militia movement that the brigade had been sent in to counter. Soldiers of the military intelligence company acted as role players, with HUMINT-trained soldiers acting in the more difficult roles. Collection missions were carried out over a two-day period on main post Yakima (known as Taylor City for the STX), and at a field site where a mock village was constructed.

Preparation for the event began prior to deployment to Yakima, with the S2X planners developing the scenario, and the TAC HUMINT teams of the platoon studying the "Road-to-War" materials to gain an understanding of the country and its corresponding environment. Once the STX began, the TAC HUMIT teams were each given a specific target to collect against, with the OMT of the platoon assisting in prioritizing the effort of the platoon as a whole, and ensuring the teams' collection efforts were supportive of each other and the overall plan. After one day to prepare the collection plan of the team, the team leader briefed the plan in detail. The level of detail expected of the teams was high, as they covered not only the basic five paragraph OPORD, but also went into great detail on contingency planning for the mission. During the brief, the platoon leadership and OMTs were present, as well as the brigade S2X section. Being the most-experienced HUMINT officers and NCOs in the brigade, this group was able to share good TTPs, and ensured the plan of the TAC HUMINT teams was sound.

Members of a Tactical HUMINT Team Build Rapport with the Locals of Taylor City.

Following the mission briefing to the leadership, the teams conducted rehearsals and pre-combat inspections of all members of the team. These included not only inspections of equipment, but also tests of critical communications devices as well. The teams then executed their mission as assigned, with some teams meeting with Taylor City locals previously identified as being potential sources of force protection information, while other teams built rapport hoping to find locals who might be supportive of U.S. forces in the area. Although the teams operated in a very unobtrusive and casual manner, they were carrying out specific plans rehearsed earlier to gather HUMINT in the area of operations. Since the role players knew the scenario well, they were able to converse with the TAC HUMINT teams for extended periods of time, often leading the teams to dead ends, but always, in character, maintaining a realistic training event.

Upon completion of the exercise, the teams returned to their garrison base, where they drafted reports of their findings and transmitted reports to the CI&I Ops WS located with the S2X section using the CHATS/SINCGARS interface available with the system. This portion of the exercise provided the OMTs of the HUMINT platoon a significant training event as well. The OMTs not only were responsible for screening the data of the TAC HUMINT teams, but they also had to find linkages and correlation between the data collected by the teams. The OMTs spent many hours sifting through the intelligence gathered by the tactical teams, and were able to find linkages in activity and contacts made. The OMTs then used this information to build a follow-on mission for the TAC HUMINT teams, which was executed during the next day's training.



An Operational Management Team Collates Data Gathered by the TAC HUMINT Teams.

While the OMTs were screening data from the TAC HUMINT missions, the brigade S2X was utilizing the CI&I Ops WS to assist in the overall collection effort of HUMINT in the brigade. The CI&I Ops WS brought new technology to the IBCT in managing the HUMINT collection effort. Using Crimelink software, the S2X was able to organize the data gathered by the TAC HUMINT teams into a manageable format to share with intelligence planners throughout the brigade. The system allowed the S2X personnel to take data from sub-unit Source Lead Development Reports (SLDRs) and develop useful and easily readable "link diagrams" (see Figure 6). These link diagrams allowed the S2X to build detailed diagrams of source leads within the brigade's area of interest and gain an understanding of relationships between HUMINT sources. This provided the brigade S2X section a direction to focus further HUMINT collection operations which led to overall better situational understanding for the brigade. The S2X can design the CI&I Ops WS to share this information with elements throughout the brigade by establishing a web page within the tactical local area network (TACLAN) if desired. This will allow not only intelligence personnel and reconnaissance troops with CHATS to view the information, but also those in the brigade with access to the Maneuver Control System (MCS) as well. Incident maps can also be shared on the system, as the CI&I Ops WS is capable of sharing MCS-driven graphics.

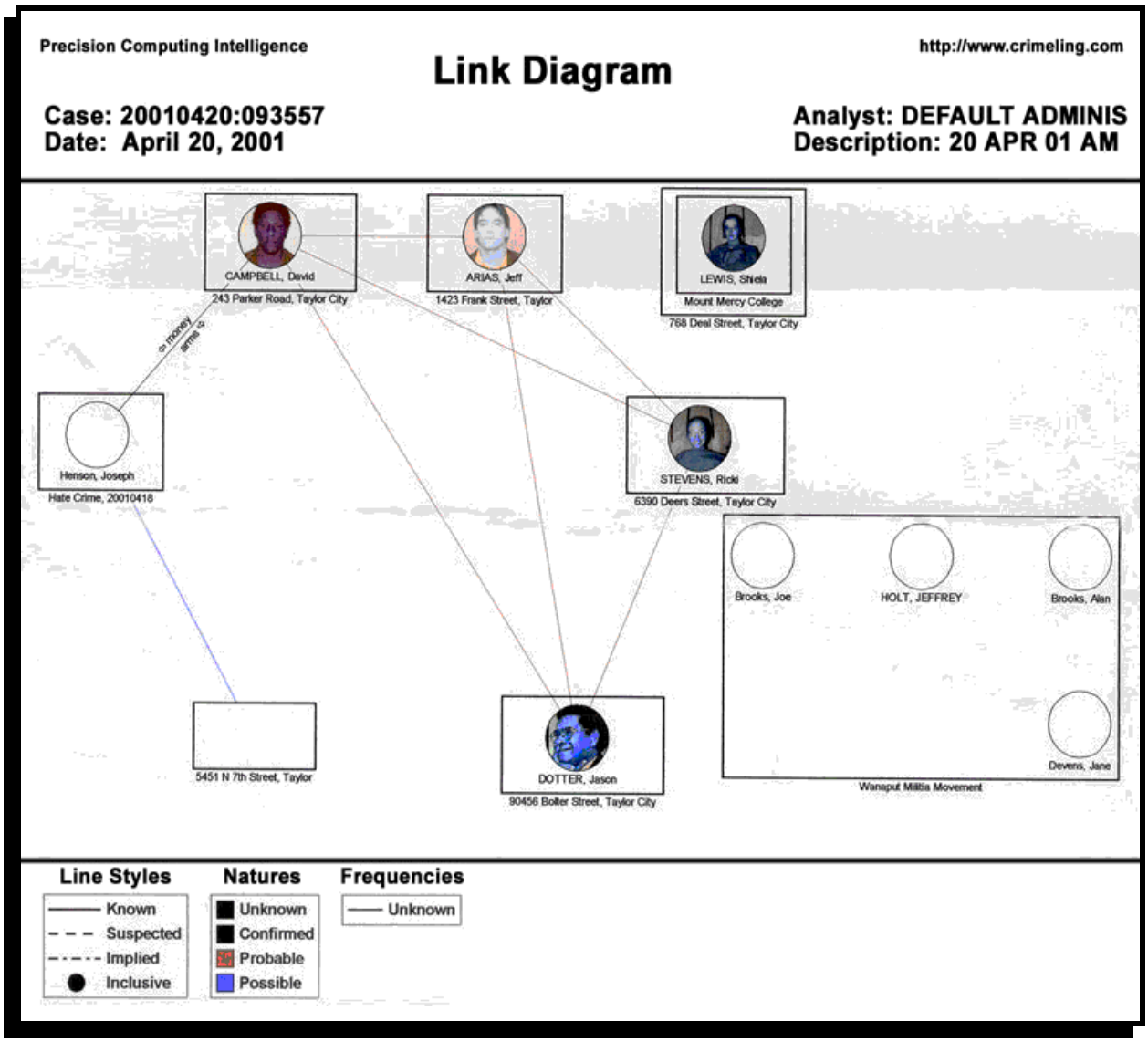


Figure 6. Link Diagram.

HUMINT Platoon STX -- Lessons Learned

The HUMINT platoon STX conducted in Yakima highlighted many lessons learned on the planning and execution of HUMINT operations. The importance of collocating data and methods to do so within the platoon is a significant issue. Once the TAC HUMINT teams deploy on their missions, they quickly gather large amounts of information, which is difficult for the OMTs to screen and integrate into a product to share with other teams in a short period of time. Since sharing intelligence between teams is key to synchronizing HUMINT operations, the

platoon leadership developed a variety of techniques. One of these is training teams to highlight key events in their reports, making it easier for the OMT personnel to locate and identify critical data. Rather than relying only on "long format" intelligence reports, the TAC HUMINT teams are asked to provide more frequent, and shorter intelligence summaries (INTSUMS) during their missions as the tactical situation dictates. This method provides information more rapidly to the OMTs, and makes it available faster for other elements as well. If teams are collocated, and time allows, the platoon also conducts shift-change briefs each evening, giving the TAC HUMINT teams an opportunity to share information gathered during the day's activities.

The value of the CI&I Ops WS was realized during the execution of the STX. Although the S2X section had only recently fielded this new system, and had limited experience with it, all personnel anticipated its potential to facilitate information-sharing and HUMINT collection management throughout the brigade. The CI&I Ops WS provides the digital linkage needed between CHATS systems throughout the IBCT, and, with its Crimelink software and ability to share map graphics, it is a potent tool for HUMINT mission planning and information-sharing between elements located throughout the brigade's area of operations. Once the system software and hardware required for the CI&I Ops WS and CHATS to integrate with the tactical satellite (TACSAT) radios are fielded, the capabilities of the system will be further enhanced. ITRT, CHATS, and CI & I Op WS interface can then be executed from locations nearly anywhere on the battlefield. This will greatly enhance digital linkage and provide for near real-time situational understanding of HUMINT operations throughout the brigade.

One area of concern voiced by the leadership of the S2X and HUMINT platoon is that the TAC HUMINT teams only have one 97B CI agent per team, and that the OMTs only have a 97B10 assigned. This is recognized as a problem since significant portions of the activities of the TAC HUMINT teams require the 97B skill set. During the STX, the 97Bs, often junior to other NCOs on the team, led the teams during the missions, as they were most familiar with the details and requirements of the operations being conducted.[10] Of greater concern is the lack of a senior 97B NCO on the OMTs of the HUMINT platoon. Although the OMTs do have a 97B10 each, both are limited in rank and experience compared with the 97Bs on the TAC HUMINT teams. When conducting CI operations, the HUMINT platoon reorganized and pulled a CI NCO from a TAC HUMINT team to assist the OMT in processing the CI reports of the deployed TAC HUMINT teams. Without this assistance from a 97B-trained NCO, the OMTs' ability to edit and process the information from its subordinate teams is limited.

After completion of the STX, the S2X and HUMINT platoon leadership found that although all soldiers understood the scenario, which was developed in great detail, shortfalls remained. Some aspects of the training are hindered when the leadership creates more information to fill voids as requests for information (RFIs) arrived from the TAC HUMINT teams conducting mission planning. To remedy this, the leadership decided to continue to build upon the same scenario for further training, rather than build another from scratch. This provides the leadership with more time to focus on required training events, rather than scenario writing. It also ensures soldiers of the TAC HUMINT teams spend more time training on other skills of HUMINT operations other than studying another scenario with difficult-to-remember names and places. Another option presented is to use areas of the world to which the platoon will likely deploy, so soldiers and leaders can gain familiarity with countries and governments to which they will likely be deployed with the IBCT. If handled appropriately, this could be an option, but the leadership must ensure that proper unit authorities clear any HUMINT collection training events using actual situations within real countries as the background scenario.

[10]During the HUMINT platoon STX, the 97Bs carried a large part of the planning, execution, and reporting of each mission. At one point, a Staff Sergeant (97E) on the team pulled security, while the Sergeant (97B) conducted the meeting with an identified source. One reason is that only a CI agent can conduct initial SAEDA (Subversion and Espionage Directed Against the U.S. Army) investigations and reports per AR 381-12. This highlights the importance of the 97B skill set during HUMINT operations.

Part V -- Conclusions

After reviewing the HUMINT capabilities of the IBCT in detail, it is clear that the brigade's ability to successfully conduct multidimensional reconnaissance and maintain critical situational understanding is reliant upon these capabilities. By conducting successful training with these assets, and ensuring leaders throughout the brigade understand methods for their employment, the IBCT strengthens traditional forms of reconnaissance to more adeptly defeat and counter anticipated asymmetrical threats.

During interviews with officers, noncommissioned officers, and soldiers of the IBCT, all remain positive about the impact of the 97B soldiers in the units. Many are surprised at how quickly the soldiers learned the "hard" skill traits, such as combat reconnaissance required of the 19Ds, especially since the 97Bs receive limited training on these techniques at Fort Huachuca. It is not uncommon to observe 97Bs with M249 squad automatic weapons, and, in fact, it is nearly impossible to identify them during training. Training of HUMINT organizations and their assigned personnel within the IBCT must remain a priority. The assignment of 97Bs to the reconnaissance troops is a success, and has the potential for providing significant payoff during operations. To ensure that success is realized, these soldiers must be given frequent opportunities to train on their 97B skill set, to ensure their critical abilities to collect, format, and communicate HUMINT to controlling elements throughout the brigade are maintained.

Proper employment of the TAC HUMINT platoon elements in addition to their training is another issue that cannot be overlooked. With the close working relationship of the HUMINT platoon and the RSTA squadron, training is frequently conducted between these organizations. This is positive, since the TAC HUMINT teams will often conduct operations in support of the RSTA squadron. But this cannot be the only method of employment for the TAC HUMINT teams. The IBCT infantry battalions frequently conduct sustained operations in areas of heavy civilian populace and the presence of HUMINT collection assets with these organizations is critical to overall IBCT success. The RSTA currently has imbedded HUMINT capability, while the infantry battalions do not. Collective training conducted with the infantry battalions is critical to build understanding in the infantry battalion commander and staffs of the capabilities of the HUMINT platoon. Strong consideration must be given to frequent training and deployment of the TAC HUMINT teams with the infantry, field artillery, and support battalions as well as the RSTA, to build the capabilities for HUMINT operations throughout the depth of the brigade area of operations.

The value of the 97B at the forward point of contact became most clear while moving through the Yakima battlefield during a three-day RSTA maneuver exercise. The author was confronted by a forward element of a RSTA troop. The squad maneuvered aggressively in a LAV, quickly dismounted, and came forward to confront the potential threat. Once the threat was assessed as unarmed and neutral, the HUMINT collection effort of the squad commenced. Instead of simply permitting a potentially valuable source to pass through, the soldiers adeptly asked a variety of questions, all well-articulated and -focused to gather specific HUMINT. Multidimensional reconnaissance in the IBCT is truly an activity executed in depth. Not only are senior commanders and staff elements asking "why" events are taking place, and piecing them together to build situational understanding, but also soldiers at the lowest levels are as well. It is not difficult to grasp the significance of this benefit to the brigade, when a person realizes there are dozens of squads on the battlefield, probing beneath the surface of all activity, and collecting on sources that would have otherwise been overlooked. These demonstrated HUMINT capabilities of the IBCT contribute to better situational understanding and must continue to be emphasized at all levels to construct the skills necessary to successfully "preempt" enemy actions during future operations.✪

A SALUTE Report from the IBCT

by COL (Ret) Duane Hardesty, Senior Functional Analyst, TRW, and
SGM (Ret) Larry DeRoche, Military Analyst, CALL

From an "observation post" located at Fort Lewis, WA, two observers are looking out over the Army's first IBCT as it begins to take shape. Here is their first SALUTE report. This report is their own view and not the official perspective of TRADOC, FORSCOM or the Department of the Army. The report is designed to illicit professional discourse throughout the U.S. Army in determining how best to man, equip and train our Future Force to meet the nation's military strategy in an ever-changing world.

S - Interim Brigade Combat Team.
A - Transforming in accordance with the Army Transformation plan.
L - Fort Lewis, WA.
U - 3d Brigade, 2d Infantry Division.
T - Beginning October 1999 and continuing through Initial Operating Capability (IOC).
E - Army Battle Command Systems (ABCS).

A current television advertisement depicts a Chief Executive Officer of a perishable food wholesaler company standing on his loading dock asking his shipping manager why all the produce is rotting on the dock. The shipping manager replies that they do not have a system that can synchronize shipping with customer orders. The next scene shows the same CEO saying to an information technology consultant, *"But we have rooms full of computers. I just don't understand how this can be happening."* The consultant's replies, *"It isn't the number of computers you have, it is knowing what they can do for you that matters."* And so it is with the Army's newest digital system and combat multiplier – ABCS, which serves as the nerve center for the Army's new Interim Brigade Combat Teams (IBCTs).

Transformation and modernization are not new to the Army. Many changes, some of them quite radical, have taken place in the Army's history. So what is so unique about the transformation process taking place within the IBCT? Is it the manner of employment and missions assigned to this new lighter force? Is it the wheeled vehicles replacing the tracked ones? Is it the tactics? While these are important, it is the ABCS digital command, control, communications, computers, intelligence, surveillance, and reconnaissance (C^4ISR) capability enabling the commander of IBCT units to choose the time, place, and manner of engaging a hostile force that makes this transformation process unique. This new technology provides the IBCT with an unrivaled capability of gaining situational understanding.[1] So like the CEO of the produce company, IBCT commanders need to have more than vehicles equipped with computers and high-tech gadgets to be successful. They must thoroughly understand what this combat multiplier can do to enhance their ability to gain real-time situational awareness, thus leveraging the full potential combat power of the IBCT.

[1] Situational understanding (SU) is the result achieved by applying analysis and judgment to the unit's situational awareness. It is the fundamental force enabler across all Interim Brigade Team battlefield operating systems and the foundation for risk mitigation with respect to brigade vulnerabilities - IBCT O&O, 30 June 2000, p. 15.

The Army Training Model and the IBCT

In November 1988, the U.S. Army published **FM 25-100, *Training The Force.*** The manual describes the Army's training doctrine and how units train to accomplish assigned missions. This document quickly became the foundation for conducting Army training, and remains so today. All involved in the process realized that a unit could not remain proficient in all collective tasks because it simply did not have enough time. So FM 25-100 established a process for determining the most critical tasks a unit had to accomplish to be designated as mission ready. This process generates the Mission-Essential Task List (METL), which is tied directly to the unit's assigned wartime mission. Wartime missions and corresponding METL development became the means of developing Army training methodology over the past two decades. The most striking result of the focused training strategy and execution outlined in FM 25-100 was the successful execution of Operation DESERT STORM.

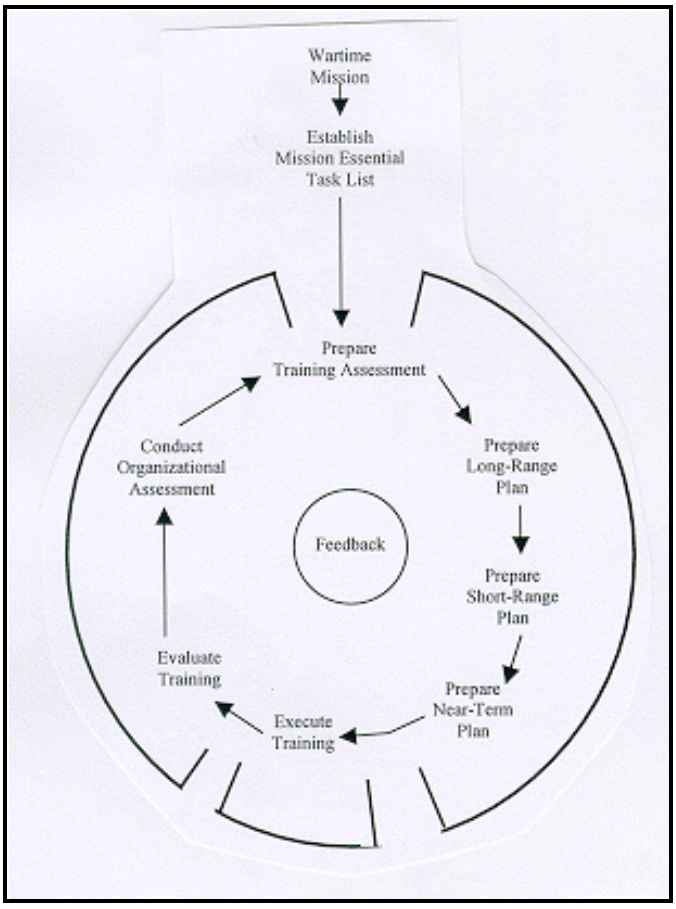


Figure 1. The Army Training Management Cycle

FM 25-100 introduces and institutionalizes a process for evaluating training performance that emphasizes unit self-assessment through the after-action review (AAR) process. The AAR process has become one of the most powerful tools of the training doctrine. FM 25-100 also focuses on the need for an aggressive "sustainment training" program for both individual and collective training tasks. Following an initial assessment, a "band of excellence" is established as a baseline for the unit to train and in which to remain. The unit also determines a required unit readiness status for each period and the amount of training required to return a unit to fully capable status. The field manual also serves as a tool for developing the unit's short- and long-term training plans. It tells the unit how to execute, assess and evaluate training. All of these steps are integral parts of developing a meaningful unit training schedule that guides the unit toward being mission ready. This model is depicted in Figure 1.

Following this model is critical to the IBCT's success. Without adhering to the model, units cannot fully develop the digital enablers that are being fielded. Since the IBCT is in its developmental stage, it does not yet have an assigned wartime mission. So instead of a METL, it uses a Centralized Training Task List (CTTL) which is based on the IBCT's understanding of its likely wartime mission requirements.

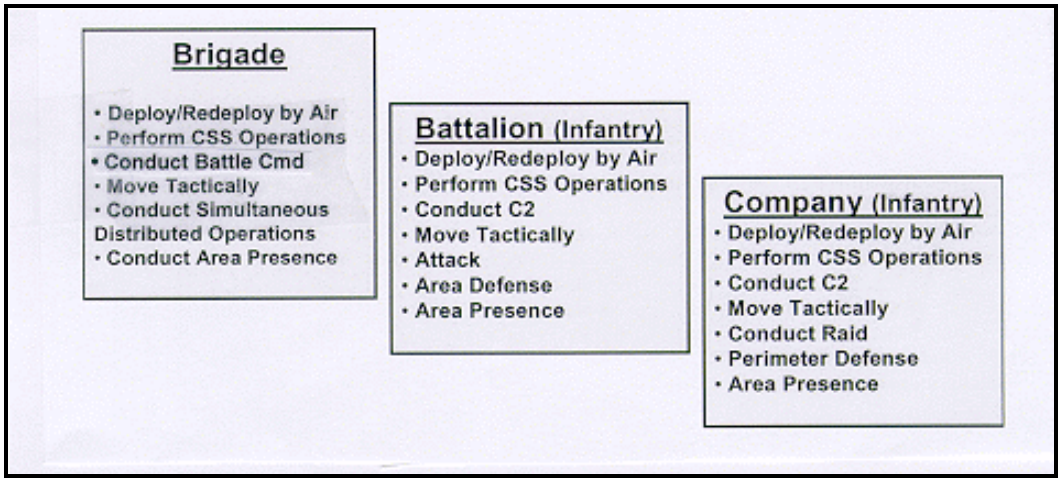


Figure 2. IBCT Centralized Training Task List

The CTTL is the basis for the initial assessment and is applied to prepare the IBCT training plan for all phases of the transformation process at Fort Lewis. The CTTL task, "Conduct Command and Control," is especially important when coupled with the IBCT's reliance on its ABCS systems. With the critical role these digital systems play in situational awareness and understanding, it is absolutely imperative that IBCT leaders completely and thoroughly understand the detailed workings of these digital systems. Commanders must understand the difference between the science and the art of operating this suite of systems. If the IBCT leader doesn't fully understand the functions and the capabilities of the organic ABCS systems, then he is unable to leverage them to their full potential.

While the ABCS should be viewed as a "system of systems," each component ABCS system must be viewed as a separate "weapons system." Both operators and staff members must undergo a thorough initial "digital qualification" training and evaluation program to ensure they are well grounded on their "weapons system." After initial training, the commander must extensively manage the maintenance, training, and employment of each of these digital tools, much as a tank battalion commander does with his tanks. This necessitates a well-structured sustainment training program focused on keeping the individual operator and staff sections fully trained at all times.

ABCS Training Sequence Lessons Learned

A key lesson learned during the fielding of the first IBCT is that the brigade staff must be fully trained in all aspects of the ABCS system prior to the start of collective subordinate unit digital training. This should occur while the maneuver units are turning in their old equipment, since this is a time-consuming part of transformation, and does not involve heavy staff participation. When the brigade staff is well-trained in the ABCS system, it can then develop a better training strategy for the entire brigade. Without initial training of the brigade staff, it cannot properly assess or evaluate subordinate unit training needs or performance, because it does not understand how the ABCS components operate. Transformation of a legacy unit to an IBCT should begin with the full immersion of the brigade command and staff in digital training.

Stabilization of Personnel Lessons Learned

Within the IBCT community, there are several different thoughts pertaining to the stabilization of soldiers within the IBCT. This becomes an important issue since transformation requires significant amounts of training unique to the unit, and currently is taking about 27 months from the initiation of the transformation process. Three courses of action are available to the Army for stabilization: start-date, mid-course, or routine. By discussing these options and their impact on the IBCT readiness process, we can draw conclusions for the best method of stabilization for future IBCTs.

Start-Date Stabilization - The first course of action is to stabilize soldiers within the IBCT from the "e-date"[2] of the IBCT with soldiers remaining in place for the total period of the transformation. With this option, a unit wouldn't begin to feel the effects of the Army's replacement process until after Initial Operating Capability (IOC).[3] Once the unit has completed transformation, its soldiers are fully trained in all the new systems and individual soldier equipment. They have the opportunity to apply lessons learned and refinement to new tactical doctrine. Once this process is complete, IBCT units are capable of deploying as a full-spectrum force.[4] By stabilizing soldiers from the start, the IBCT does not need to establish a period of "retraining" in the middle of the development of the new doctrinal concepts as soldiers move in and out of the brigade.

Mid-Course Stabilization - Another possible scenario for stabilization includes rotating the first chain of command at their normal rotation point, and stabilizing the follow-on group of commanders. This is the situation currently facing the 1st IBCT. Within the IBCT, three of six battalion commanders will rotate 18 months into the transformation process. The battalion commanders are rotating at a time when their units are receiving the complex digital TOCs and beginning the intensive preparation for the Brigade Warfighter Exercise scheduled for September 2001. Within the field grade staff officer ranks, the current turnover is projected at 70 percent, with company-level officers about the same.

[2] E-date refers to the date that the new MTOE takes effect in a unit conducting transformation to an IBCT.

[3] IOC is the date that the IBCT unit is fully deployable and mission capable.

[4] Full-spectrum describes the capability of an IBCT to deploy to, and conduct operations in, smaller scale contingencies (SSCs) for peacekeeping and peace enforcement to a Major Theater War (MTW) with conventional large-scale conflict.

Because of the massive turnover of key leaders, the leadership of the IBCT must be trained repeatedly from the beginning. Since the institutional Army is not yet equipped to train individual soldiers on several of the ABCS systems, namely the two key maneuver systems of FBCB2 and MCS, these new personnel come to the IBCT with no digital systems training. It only takes one visit to one of the newly fielded IBCT TOCs to understand the complexity of the total package. The ABCS system is clearly at the "center of gravity" for the IBCT. If commanders and their staffs cannot make it work or do not understand how to leverage its full potential, they will be unable to gain the powerful situational awareness garnered by this system, and will not gain the edge to choose the time, place and method of defeating enemy threats.

The training required to fully understand and employ the capabilities of the digital systems are enormous. Ask an artilleryman how many hours an operator has to train on TACFIRE to maintain efficiency? The reply will be around 16 hours per week. After multiplying that by the hundreds of digital systems in an IBCT, one quickly grasps the enormity of the training challenge facing an IBCT commander at every level. Successful fielding and training plans must start with the leadership's full appreciation and understanding of the capabilities and complexities of this new combat multiplier, the ABCS suite. Since time is clearly one of the most precious training commodities available, it is clear why replacing a major portion of IBCT unit personnel prior to IOC is an expensive proposition.

Routine Stabilization **-** The final course of action is not to stabilize personnel. Simply continue to rotate soldiers and officers into and out of the IBCT in accordance with the Army's current replacement policies. Under this course of action many of the lessons learned are lost as personnel rotate in and out of the units. The installation assumes the role of constantly training new ABCS operators since for now the institutional Army cannot fill this role. Once institutional training at all levels within the Army begins to cover the critical components of the ABCS suite in detail within TRADOC courses, this option may become viable.

Digital Crew Management -- Lessons Learned

Just as tank crews remain qualified on their tank gunnery requirements, the same should be true for operators in their assigned digital systems within the IBCT. For each digital system within a unit, there must be sufficient operators and supervisors to operate the system 24 hours daily for 180 days. This requires a day and a night operator for each system and requires that each operator is "checked out" on their assigned system.

Within most combat arms maneuver units, crew-served weapons are tracked by each system and crew. For example, within tank battalions,[5] crews must qualify routinely in accordance with a series of tables through Tank Table VIII. To qualify on their assigned system, crewmembers must successfully accomplish all required tasks to established standards. To remain within the "Band of Excellence" established in FM 25-100, the crew must practice for many hours in the Unit Conduct of Fire Trainer (UCOFT). Failure to meet the established standard means the crew is unqualified. Similar standards must be developed and applied to digital systems.

[5] **DA PAM 350-38,** ***Standards in Weapons Training,*** 3 July 1997, details minimum qualifications standards for weapons and weapon systems. It delineates the minimum time and qualification standards that must be met for a soldier and crew to become and remain qualified with their weapon or weapon system.

The brigade leadership, with assistance from I Corps and the TRADOC Brigade Coordination Cell (BCC), developed an exceptional individual digital training program. During New Equipment Training (NET), instructors teach soldiers how to operate their assigned digital system. After the unit operators and leaders achieve an appropriate level of proficiency, unit leaders must then plan follow-on training to sustain them in the "band of excellence." Regular, integrated sustainment training is the key to success for digital units. Sustainment training must be conducted not only on the system the operator uses, but also across the suite of systems that the system supports throughout all levels. Since each of the ABCS components provides information to other systems, when training is conducted, it must be structured in a manner that replicates the information exchange taking place when the entire network is deployed.

Commander's Role -- Lessons Learned

Commanders at every level must view the ABCS suite as a "combat multiplier" and intensively manage the systems like other combat systems. Commanders at echelons from company, troop, battery, and brigade must establish a "battle roster" for tracking the individual and crew qualification for each component of the ABCS. The status of each individual operator and staff section should be added to the monthly "Readiness Reporting System" and Quarterly Training Briefs (QTBs), keeping commanders at all levels informed on the training status of each key piece of equipment at the core of situational understanding for the IBCT.

Commanders within digital units must be trained on each ABCS system organic to their units and possess a thorough understanding of the relationship of each part of the system. Commanders at each level must understand not only the "science" of ABCS, but they must also master the "art" of battle command using its capabilities. The science of ABCS is the manipulation of the systems to produce the information that each system generates. The art of ABCS is the execution of digitally enhanced battle command. This necessitates extensive training time devoted to understanding and learning how to leverage the system's full potential. The amount of training time required to sustain operator, section, and staff proficiency requires intense management by unit commanders and senior NCOs.

Conclusions

Within the IBCT, leaders and soldiers are doing incredible work in the very challenging environment of transformation. All involved are developing innovative and creative solutions to the complex issues of initial training and sustainment of complex digital systems. Simultaneously, the IBCT experiences soldier and leader turnover, and continues to search for the ideal method to manage personnel turnover.

Digital training must be monitored similar to crew-served weapons. Tracking soldier "digital qualifications" will ensure that leaders budget adequate time and resources to maintain operator proficiency on their assigned system. Commanders of digitally enhanced units, at all levels, must extensively manage both individual and collective training to fully leverage the advantages that ABCS provides. This allows the commander to focus his unit's combat power at the place and time of his choice. Sustainment training must be integrated across the entire unit digital spectrum and must encompass all personnel within the unit. Only with proper training and sound systems knowledge can unit supervisors fully take advantage of the capabilities of ABCS to increase situational understanding and information dominance throughout the brigade.

Although the units at Fort Lewis face daunting challenges during a period of difficult change, immense progress is being made in preparing the IBCT for its role in future conflicts. The soldiers of 3d Brigade, 2d Infantry Division, are steadily transforming their units with a goal of achieving IOC by the timeline established by the Army Chief of Staff, and are doing so in a timely and professional manner. There is much to be accomplished, but from our observation post, it is clearly visible that the soldiers of the Initial Brigade Combat Team are up to the challenge. Until our next SALUTE report, "Scouts Out" from the IBCT!✪

Enhancing Situational Understanding through the Employment of Unmanned Aerial Vehicles

by MAJ Brad C. Dostal, Military Analyst, CALL

Introduction -- The Impact of UAVs

As the doctrine and tactics, techniques, and procedures (TTP) relevant to the IBCT and its digital systems proliferates throughout the U.S. Army, the terms "situational awareness" and "situational understanding" have become commonplace. Both are considered key factors in the planning and execution of combat operations in digitally-equipped units. Situational awareness is defined as ***"The ability to maintain a constant, clear mental picture of relevant information and the tactical situation including friendly and threat situations as well as terrain."***[1] Situational understanding (SU) is ***"The product of applying analysis and judgment to the unit's situational awareness to determine the relationships of the factors present and form logical conclusions concerning threats to the force or mission accomplishment, opportunities for mission accomplishment, and gaps in information."***[2] SU allows leaders to avoid surprise, make rapid decisions, and choose when and where to conduct engagements, and achieve decisive outcomes. Within the IBCT, the Tactical Unmanned Aerial Vehicle (TUAV) is one of the key tools to gather the information to build situational awareness and understanding for all leaders.

The primary source of combat information to develop the critical element of SU in the IBCT is the Reconnaissance, Surveillance, and Target Acquisition (RSTA) squadron. The RSTA squadron's design consists of a headquarters troop, three reconnaissance troops, and a surveillance and target acquisition troop. The latter consists of a UAV platoon, ground sensor platoon, and NBC reconnaissance platoon. As stated in the IBCT Organizational and Operational Concept (O&O), ***"The RSTA elements must provide situational understanding of the operational environment in all of its dimensions -- political, cultural, economic, demographic, as well as military factors."***[3] The RSTA squadron meets this demanding role using the organic capabilities of its reconnaissance troops and sensor platforms of the surveillance troop. By developing situational awareness and corresponding situational understanding for the brigade, the RSTA squadron provides greater freedom of maneuver and action.

This article focuses on a critical component of the RSTA squadron's surveillance troop, the UAV platoon. The importance of understanding the capabilities of this element is key, since the TUAV is the ground maneuver commander's primary day and night, RSTA system. The TUAV provides the commander with a number of capabilities including:

- **Enhanced situational awareness.**
- **Target acquisition.**
- **Battle damage assessment (BDA).**
- **Enhanced battle management capabilities (friendly situation and battlefield visualization).**

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[1] Draft **FM 17-96,** ***RSTA Squadron,*** p. 1-13.

[2] Ibid.

[3] IBCT O&O Concept, Version 4.0, 30 June 2000, p. 37.

The combination of these benefits contributes to the commander's dominant situational awareness allowing him to maneuver to points of positional advantage with speed and precision to conduct decisive operations. As a C^2 enabler for tactical decisionmaking, the UAV platoon is the commander's "dominant eye," allowing him to shape the battlefield to ensure mission success. This article shares some of the basic operational capabilities of theUAV platoon while discussing TTPs for improved utilization and employment of TUAV assets throughout all units within the IBCT.

UAV Assets and Common Operations within the IBCT

The UAV assets of the IBCT are located within the surveillance troop. The troop is commanded by an intelligence officer, and has a wide array of reconnaissance assets to enhance its intelligence- gathering capability. Among these capabilities are imagery intelligence (IMINT), signal intelligence (SIGINT), and measurement and signature intelligence (MASINT) assets. Organic assets include the TUAV, Remotely Monitored Battlefield Sensor System (REMBASS), Ground Surveillance Radar (GSR), the PROPHET system,[4] and the Chemical, Biological, and Radiological-Integrated Detection System (CBRIDS).[5] This article focuses on the UAV platoon of the surveillance troop depicted in Figure1.

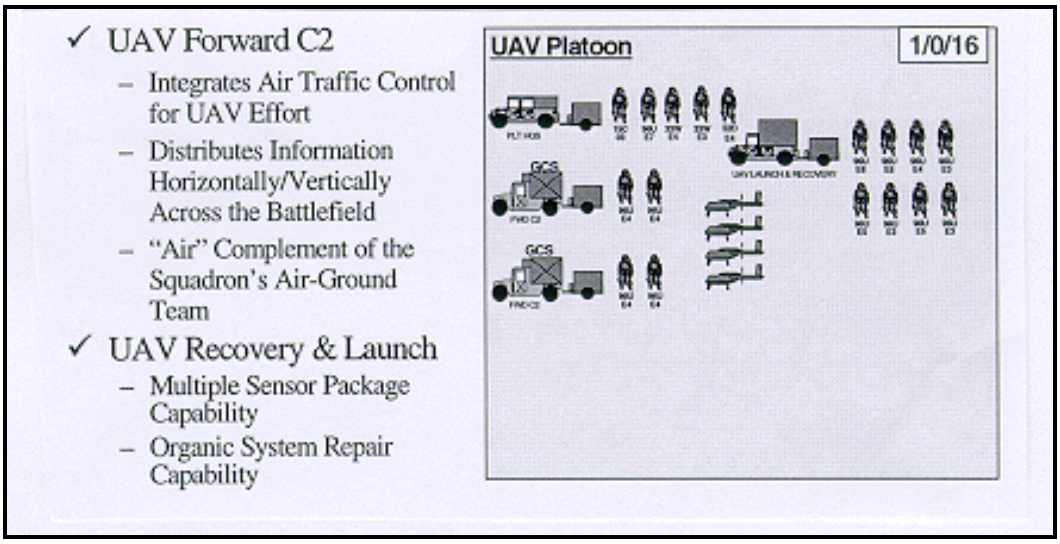

Figure 1

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[4] The PROPHET system is a "next generation" Tactical SIGINT System. Either mounted on a Heavy HMMWV, M1097, or dismounted as a man-portable capability, PROPHET's primary mission is to provide 24-hour force protection (FP) to the maneuver brigade. PROPHET's electronic support (ES) and ground surveillance capability provides early warning of potential threats to supported forces in the brigade area.

[5] Currently under development, the CBRIDS conducts NBC reconnaissance, survey surveillance, sampling, and warning missions with point, stand-off, and remotely piloted detectors to reduce operational and tactical surprise from weapons of mass destruction (WMD) - Army Chemical Review, January 2000.

The UAV platoon's mission is to launch, fly, recover, and maintain the RSTA squadron's aerial reconnaissance platforms. The platoon forms two elements when in its operational configuration: a C^2 element and a launch and recovery element. The platoon leader is a captain, signaling the level of importance given to these operations within the brigade. Additionally, the officer is a military intelligence aviator, who has the flight and intelligence background to effectively lead an airborne intelligence unit. The platoon sergeant, mission control (MC) sergeant, and three squad leaders provide additional leadership. The remaining platoon personnel consist of 96U (UAV operators) and the technicians trained to maintain the aircraft and flight control systems. Since the manning of the platoon is austere, and the elements often operate from two to three different locations, the demands on the personnel are high during continuous operations. To offset these demands, all senior personnel are capable of carrying out the duties of mission control.

The IBCT currently uses the Hunter UAV as a surrogate system until the new Shadow 200 TUAV is fielded.[6] Although the IBCT O&O provides four TUAVs organic to the platoon, it currently operates three Hunter UAVs.[7] The three Hunter aerial vehicles are transported on a newly acquired two-trailer system to reduce the airlift requirements for the unit. Since the system is designed with two prime-movers, each pulling a trailer, the Hunter UAVs are moved in a disassembled state, broken down between the two trailers.

One of the brigade's Hunter UAVs prepares for take-off during a recent FTX.

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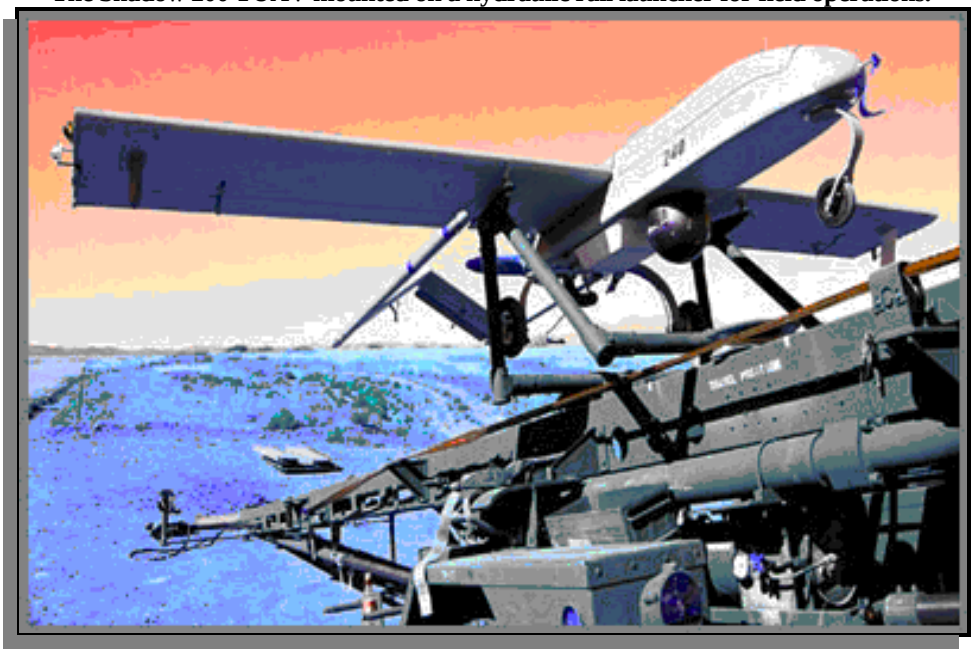
[6] The Shadow 200 TUAV is currently scheduled for full production in late 2002. The aircraft is about one third the size and weight of the Hunter UAV and does not require an airfield since it can be launched from a hydraulic rail system and recovered with an arrester hook field recovery system.

[7] Characteristics of the Hunter UAV include a 16,000-foot MSL service ceiling, 10-hour sustained flight time, GPS/IFF-equipped, twin 65-hp engines, and maximum gross take-off weight of 1,600 lbs.

The Shadow 200 TUAV mounted on a hydraulic rail launcher for field operations.



Control of the Hunter UAVs while in flight comes from one of two Ground Control Stations (GCSs)[8] or the Launch and Recovery Station (LRS). The LRS has the same capability as the GCSs because of equipment modernization and standardization. During most operations, the LRS launches the UAV. Once the aircraft is airborne at approximately 3,500 feet and moving toward the objective area, the LRS passes control of the UAV to a forward GCS to carry out the mission. Within the IBCT, as a general rule, two stations remain at the launch site, allowing one station to displace to an alternate location if needed during mission execution. This enables one station to recover the UAV while the other is on the move. The forward control station is normally collocated with the supported unit, most likely with the RSTA Command Post (CP), or with the battalion CP of the brigade's main effort.

Although GCSs control the UAVs, the IBCT can use another method of sharing the critical video feed provided by the airborne platform camera on each UAV. Remote Video Terminals (RVTs) may be collocated with those CPs within the brigade that do not have a GCS. Each RVT comes with a communications package allowing it to receive real-time video feed from selected airborne TUAVs and display the picture to observers on a small video screen. Since the UAV platoon has four RVTs, one is usually located with each of the infantry battalions, with the remaining terminal located with the artillery battalion.

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[8] The GCS collects, processes, analyzes, and distributes digitized battlefield information by interfacing with currently fielded systems. Characteristics of the GCS include primary and backup stations capable of flying two UAVs simultaneously, C^2 to 125km and an additional 75km with relay, and GPS movement tracking.

Doctrinal Deployment of TUAVs in the IBCT

Although the UAV platoon is an organic element of the RSTA squadron, it is clearly a "brigade" asset because of its critical role within the unit. At times, TUAVs undoubtedly carry out missions to collect intelligence directly for the brigade's military intelligence company or conduct missions in direct support of infantry battalion maneuver operations. During these operations, control of the TUAVs may be beyond the direct span of control of the RSTA Squadron Commander. Although these aerial reconnaissance assets are supported and maintained within the RSTA squadron, they must support the brigade commander's priority intelligence requirements (PIRs).

As the IBCT's chief intelligence officer, the brigade S2, through the military intelligence company's Intelligence, Surveillance, and Reconnaissance (ISR) integration section, will likely be the primary tasking authority for the UAV platoon. This issue is frequently discussed between senior leaders in the IBCT, and can be addressed in the future as the IBCT employs TUAVs during collective training events. Throughout the remainder of this article, employment of TUAVs is addressed in the context of battalion and below collective training, which places the TUAVs under the control of their assigned headquarters of the RSTA squadron, with the focus on related training TTPs.

For the RSTA squadron to provide situational understanding to the IBCT, it must employ its ISR assets as a part of a synchronized collection plan. TUAVs are clearly one of the key ISR assets for commanders to consider when planning intelligence collection operations, and consideration of their doctrinal roles within the IBCT allow for maximum benefit during employment. The key point in most doctrine available (currently in draft form) on the utilization of TUAVs in RSTA operations is that they must be employed only when thoroughly integrated with other ISR platforms in the squadron. Commanders must avoid the temptation to use the TUAVs as a lone ISR asset. The drawbacks of doing so were visible during the Joint Contingency Force Advanced Warfighter Experiment (JCF AWE) at the Joint Readiness Training Center. Aerial platforms operating independently to assess battle damage of individual enemy vehicles or to provide data for fire missions were often unsuccessful, and dedicated significant flight time to events having no impact on brigade-level operations.[9]

The utilization of TUAVs is most successful when it centers on missions of adding depth, extending capabilities, or broadening the areas of coverage of other ISR assets in the RSTA squadron. TUAVs also provide flexibility to the commander's operational plan as well as redundancy of coverage, with the added benefit of significant standoff. Aerial reconnaissance provides the commander a low-risk means of conducting reconnaissance in a relatively short period of time. With the area of operations for the RSTA squadron likely to exceed its doctrinal capabilities to conduct security operations such as screening, TUAVs are useful to cover gaps not possible for the commander to maintain with reconnaissance troops or other ISR assets available. Figure 2 provides a set of guidelines for IBCT commanders and staff to consider when utilizing TUAV assets for aerial reconnaissance missions. Most importantly, commanders must remember that TUAVs are best used to complement the missions of the ground forces through integration with other ISR assets.

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[9] ***JCF AWE Initial Impressions Report,*** Center for Army Lessons Learned, March 2001, p. 47, 51 and 64.

Conditions for Conducting Aerial Reconnaissance with TUAVs

- **Time is limited or information is required quickly.**
- **Detailed reconnaissance is not required.**
- **Extended duration surveillance is not required.**
- **Objective is at extended range.**
- **Verification of a target is needed.**
- **Threat conditions are known and risk to ground assets is high.**
- **Terrain restricts approach by ground units.**
- **Terrain and weather conditions are favorable.**

-- FM 17-96

Figure 2

UAV Employment -- Lessons Learned

During a recent FTX at Yakima Training Center, WA, the RSTA squadron simultaneously employed all ISR assets during an intense three-day maneuver exercise. The squadron used its UAVs to gather intelligence in conjunction with other surveillance assets, and tasked them to assist in conducting fire missions with the IBCT's artillery battalion, which was also deployed to Yakima.

RSTA commanders and staff were familiar with the strengths and weaknesses of the UAV, since they conducted operations in the more difficult heavily vegetated terrain of Fort Lewis during a previous training event. Leaders clearly understood that dense vegetation, cloud cover, and precipitation degrade UAV capabilities. Throughout the exercise, the UAVs were employed in a manner to overcome these shortfalls as best as possible, including reliance on infrared capabilities. Although this was the first time either battalion deployed since the transformation process began, the units learned many lessons on the employment of UAV assets within the IBCT.

Psychological Effects on Enemy Forces -- During the maneuver exercise, an element of OPFOR conducted harassing operations including infiltration, ambushes, and a raid against the RSTA squadron. The OPFOR effort was well-planned; however, plans of OPFOR actions were not shared with the commanders and staff of the RSTA squadron to promote a realistic and dynamic environment for the training event. During the after-action review, OPFOR leadership stated that the most difficult challenge presented to them was to operate undetected while the UAVs were airborne. Although the OPFOR personnel often were able to avoid detection even in relatively open terrain by moving in small elements and by staying close to the limited vegetation available for concealment, the UAV was very menacing. When the UAVs were airborne anywhere in the area of operations, the OPFOR was hesitant to move for fear of detection. The ability of the UAV to keep enemy forces off balance is a significant secondary benefit. Although the objective of the UAV may be to observe a specific area on the ground, the course it flies while doing so can be planned to impact threat forces in an area not being observed.

UAV feed of OPFOR mounted elements during the RSTA squadron maneuvers.

Equipment Effects on Operational Readiness -- During this deployment, the UAV platoon deployed with the new trailer system for the first time. In the old method, a 5-ton truck transported each UAV. The new system requires less support. There is one less prime mover, one less driver, and reduced maintenance support. A lesson learned during the deployment was that it takes approximately twice as long to prepare a UAV for operations after arriving at the airfield with the new system. With the old system, once the aircraft was lifted off of the truck with a crane, it was ready to fly following its pre-flight checks. Since the Hunter UAVs are disassembled to a greater extent with the new trailer system, the UAV platoon needs four hours instead of two to prepare the UAVs for aerial reconnaissance missions. Commanders should factor this additional assembly time into their planning when displacing the UAV platoon.

A Hunter UAV secured for movement on the new trailer system.

UAV Handoff in Three-Dimensional Operational Areas **--** During the FTX, the UAV platoon executed "handoff" on numerous occasions.[10] Early in the maneuver portion of the exercise, the UAV platoon moved one GCS forward with the RSTA CP to serve as the forward deployed GCS for future operations. The unit experienced some difficulty in executing the successful uplink of communications between the Hunter UAV and the forward deployed GCS because of the position of the target area in relation to the receiving GCS. During "linear" operations, the forward GCS is normally located enroute to the target area. During the "non-linear" operations practiced during the FTX (and the type that the IBCT is designed to conduct), the objective is not positioned forward of both the LRS and forward GCS responsible for controlling the UAV over the objective area (see Figure 3).

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[10] Handoff is the procedure conducted when the GCS near the take-off airfield passes control to the forward located station, which controls the UAV during mission execution. Handoff can be conducted in the "silent" mode with no communications made between stations, or in the "open" with both stations using voice communications to ensure successful completion of the procedure.

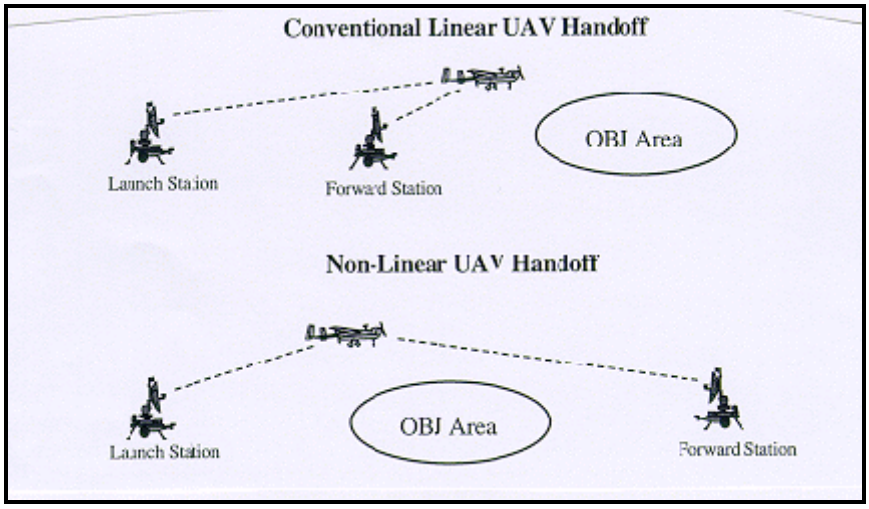

Figure 3

Operating in a non-linear manner greatly increases the complexity of UAV handover operations. The angle of the antenna system on the Hunter UAV must be within 30 to 45 degrees of the ground data terminal communications system located with each GCS. The dashed lines in Figure 3 depict the communications linkage, and the corresponding difficulty experienced in non-linear operations. During linear operations, when the launch station attempts to execute handover with the forward station, the antenna angle to the forward station stays within the 45 degree range, facilitating quick communications linkage. During non-linear operations, when the launch station attempts to execute handover with the forward station, the antenna angle to the forward station greatly exceeds 45 degrees, and the UAV is not quickly able to gain communications with the forward station. While attempting to make contact with the forward station, the UAV continues to fly as programmed in the flight database, but significantly greater amounts of time are required for the forward station to achieve uplink as the Hunter UAV redirects its antenna to the new station attempting to gain control. In addition to the increased time necessary for handover, risk increases during this period as well. If one station becomes non-operational due to the threat actions, it is more difficult for the other station to regain control.

The non-linear effects of the Hunter UAV also impact other elements of the IBCT. Units with RVTs accessing the UAV video feed frequently lose real-time UAV data feed as well, since the antenna angle also affects RVT terminals. This is an important aspect for commanders and staff to consider when evaluating planning factors related to "maneuvering the network," a key principle to successful operations within the IBCT. Commanders must consider the effects of UAV communications capabilities on units requiring RVT feed. These elements must be located within reasonable range of the controlling GCS if they are to receive real-time data feed. If this is not possible, commanders must consider other options including the use of other available methods of communication other than receiving the feed directly from the UAV.[11]

[11] One method of increasing the capabilities of the remote video terminals is to locate them with the PROPHET system. The RVT can rely on the highly capable communications system of the PROPHET system to increase its ability to provide quality real-time UAV feed to commanders. This could be especially useful for the RSTA TAC, as it could plan to collocate with a PROPHET system during periods when UAV feed to the commander in the TAC is critical to operational success.

Integrating the UAV into TOC operations -- The location of the UAV feed within the TOC is an issue of importance to ensure maximum utilization of system capabilities. In all digital TOCs, the UAV digital picture is displayed on a screen of the Command Information Center (CIC) in the briefing area for commanders and staff to view. UAV video feed can also be down-linked to RVTs, which can be placed in various locations depending on mission requirements. When collocated with an All-Source Analysis System (ASAS) Remote Workstation (RWS), the RVT allows the military intelligence analyst at the RWS terminal to capture an image identified by the UAV operator on his screen, conduct a screen print, and carry out further detailed analysis of the image. When located next to the Advanced Field Artillery Tactical Data System (AFATDS), the RVT supports the fire support officer and his crew using UAV data to execute calls for fire. Locating the UAV terminal next to the Joint Surveillance Target Attack Radar System (JSTARS) and Air Missile Defense Work Station (AMDWS) can also benefit operations, as these assets often work collectively against identified targets.

Another critical aspect of UAV operations is the ability of the officers and senior NCOs of the battle staff to successfully focus UAVs to accomplish assigned missions. This means close integration of the UAV operator with the operations staff and intelligence analysts to find and verify commander's critical information requirements and conduct the corresponding analysis. Communications between the TOC battle captain and the UAV mission commander must also be open and frequently practiced. This is critical during fire missions and other times when immediate feedback from the UAV is necessary, and the UAV mission commander may have to relay flight instructions to the UAV operator located outside the TOC in the control shelter. By working closely together, both parties can ensure maximum effective utilization of the UAVs to accomplish the brigade mission successfully.

An intelligence analyst and a UAV operator evaluate video feed on a RVT.

UAV Operational Manning Concerns -- The UAV platoon is manned with 96Us (UAV operators) to operate the UAV, but does not contain any organic capability to analyze the imagery. The personnel assigned to conduct analysis of collected imagery are located in the brigade ISR section of the military intelligence company. During many operations, this manning structure is sufficient, since the RSTA TOC will be collocated with the brigade main CP. During these consolidated operations, the GCS elements of the UAV platoon can work closely with the ISR integration team to ensure all video feed is being properly evaluated and shared with commanders and staff at all levels.

One limitation of this manning structure clearly seen during the RSTA FTX is that many other elements besides the brigade main CP have a requirement for organic imagery analysis. When operating in the squadron TAC configuration during the FTX, the squadron commander depends heavily on the surveillance troop commander and assistant S2 to conduct large amounts of imagery analysis of UAV video feed. Although these personnel are capable of conducting analysis of the feed received through the RVT in the TAC, it is less than ideal. The difficulty in interpreting UAV imagery was visible during squadron maneuvers. Although the RSTA squadron is manned to operate the UAVs, it lacks the needed manning to conduct high quality analysis of UAV feed, especially if not collocated with the brigade CP.

With the addition of 96Ds (imagery analysts) to the surveillance troop headquarters, the RSTA squadron could better optimize the UAV feed it receives. Integration of UAV operations within the TOC would improve with dedicated analysts as well. The development of a close working relationship not only with the intelligence section, but also with the Fire Direction Officer and battle captain would enhance operations in the squadron. During critical incidents, such as the sighting of large elements of suspected enemy in the area of operations, the squadron commander could expect direct feedback from a trained source. Non-trained personnel tasked to conduct imagery analysis do not have the same expertise and training as 96Ds in imagery analysis. When relied upon to conduct UAV imagery analysis, 96Ds maintain a higher likelihood of reporting data accurately, greatly benefiting overall situational awareness in the brigade.

An image taken during the FTX of a "probable" four-man OPFOR observation post (OP). Accurate identification of this element by a 96D imagery analyst might have altered the commander's plan having a more favorable outcome for friendly forces.

Conclusions

When properly employed, the UAV platoon greatly enhances the IBCT's ability to successfully meet the unique intelligence, surveillance, and reconnaissance challenges inherent to its multi-dimensional environment. As a key C^2 enabler for tactical decisionmaking in the IBCT, UAVs clearly are the commander's "dominant eye," allowing him to shape the battlefield to ensure mission success. Commanders and staff of all units in the IBCT must understand that the employment of UAVs in operations must be thoroughly integrated with all brigade ISR platforms. Through the sound employment of these critical assets, IBCT commanders will more adeptly shape the battlefield to facilitate successful combat operations.

UAV lessons learned in the early operations of the IBCT provide current and future IBCT leaders the opportunity to understand the capabilities of UAV assets, and develop the best methods for their employment. Planning for aerial reconnaissance with UAVs is most successful when it centers on missions of adding depth, extending capabilities, or broadening the areas of coverage of other ISR assets in the RSTA squadron. The ability of the UAV to keep enemy forces off balance is one to consider as a secondary benefit of mission planning at all levels. The difficulties of operating in a non-linear manner and the effects on handover operations and RVT feed must be factored into mission planning as well. As elements of the IBCT deploy throughout the battlefield to conduct operations, the lack of trained imagery analysts will remain an issue as commanders operating from TACs on the battlefield make decisions based on the limited organic analysis capability. The ability of the unit to rely on reachback capability to analyze UAV feed, and push the information to commanders in the field, is critical to maintaining the dominant eye of the IBCT, and a sound grasp of situational understanding. **k**

Appendix A
Army Battle Command Systems Descriptions

ABCS

The Army Battle Command System (ABCS) integrates the command and control (C^2) systems found at each echelon -- from ground force component commanders at the theater or joint task force level -- to the individual soldier or weapons platform. Whether an Army force is deployed for land combat or is conducting peace operations, providing humanitarian assistance, or giving aid to civil authorities, ABCS supports the mission by integrating the battlespace automation systems and communications which functionally link strategic and tactical headquarters.

ABCS is interoperable with joint and multinational C^2 systems at upper echelons across the full range of C^2 functionality, and is vertically and horizontally integrated at the tactical and operational levels. The ABCS has three major components:

- **The Army Global Command and Control System (AGCCS).**
- **The Army Tactical Command and Control System (ATCCS).**
- **The Force XXI Battle Command Brigade and Below (FBCB2).**

AGCCS

The Army Global Command and Control System (AGCCS) is the Army component of the joint Global Command and Control System. It was built from application programs developed by the Army World-Wide Military Command and Control System Information System: namely, the Strategic Theater Command and Control System, or STCCS, and the Echelons Above Corps portion of the Combat Service Support Control System, or CSSCS/EAC. AGCCS combines these stand-alone programs into a suite of modular applications that operates within the Defense Information Infrastructure Common Operating Environment. These applications include logistics, medical, personnel, Theater Army Special Operations Support, mobilization, deployment, Army Status of Readiness and Training, and Transportation Asset Management. AGCCS modules interface with shared components of the ABCS and with the joint C^2 mission applications provided by the Global Command and Control System (GCCS).

FBCB2

Force XXI Battle Command Brigade and Below (FBCB2) provides situational awareness and C^2 to the lowest tactical echelons. It facilitates a seamless flow of battle command information across the battlespace while interfacing with external C^2 and sensor systems, such as ATCCS. The end result is vertical and horizontal integration of the digital battlespace at the brigade-and-below levels.

The FBCB2 system is composed of:

- **The appropriate category of embedded system hardware.**
- **FBCB2 software which is architecturally compliant with the Defense Information Infrastructure Common Operating Environment.**
- **A position navigation and reporting capability .**
- **An interface to a terrestrial communication system or to a satellite communications system for operations over long distances or rugged terrain.**
- **A combat identification capability.**

The FBCB2 system supports lower-echelon battle command tactical mission requirements such as:

- **Real-time situational awareness for commander, staff, and soldiers.**
- **A shared common picture of the battlespace.**
- **Graphical displays with friendly and enemy unit locations.**
- **Target identification.**
- **Integrated logistics support.**
- **Communications/electronics interfaces with host platforms.**

ATCCS

The Army Tactical Command and Control System (ATCCS) is the Army's corps through brigade C^2 structure. The ATCCS is organized into five battlefield functional areas: Maneuver, Field Artillery, Intelligence and Electronic Warfare, Combat Support Service, and Air Defense. Each of these five battlefield functional areas has a dedicated infrastructure, as follows:

- **Maneuver Control System (MCS).**
- **Advanced Field Artillery Tactical Data System (AFATDS).**
- **All-Source Analysis System (ASAS).**
- **Combat Service Support Control System (CSSCS).**
- **Air and Missile Defense Work Station (AMDWS).**

These infrastructure systems are collectively known as the Army Tactical Command and Control System (ATCCS).

MCS

The Maneuver Control System (MCS) distributes tactical reports and orders on the battlefield, allowing a commander to receive, analyze, and transmit critical battlefield information. MCS assists the commander in applying combat power at the appropriate time and place in response to changing battlefield dynamics. It provides ready access to current situation reports, intelligence, and contact reports that assess enemy strength and movement, as well as the status of friendly forces.

The commander uses MCS decision support graphics -- which include map overlays and battle resources by unit -- to analyze possible courses of action. After determining the appropriate course of action, the staff uses MCS to prepare and send warning orders, operations orders, and related annexes. Exchange of information using MCS gives all command posts from battalion through corps the same common picture of the battlespace. It allows commanders to make decisions that mesh with the decisions and capabilities of other commanders in the network.

AFATDS

The Advanced Field Artillery Tactical Data System (AFATDS) is a totally integrated fire support C^2 system that automates and facilitates fire support operations and planning. During battle, the AFATDS provides up-to-date battlefield information, target analysis, and unit status for fire missions, while coordinating target damage assessment and sensor operations. The automation provided by the AFATDS enhances the maneuver commander's ability to dominate the battle by providing the right mix of firing platforms and munitions to defeat enemy targets, based on the commander's guidance and priorities.

The AFATDS coordinates and optimizes the use of fire support assets by matching target attack criteria to the most effective weapon systems available at the lowest echelon. The AFATDS processes information for all fire support assets, including mortars, field artillery, cannon, missiles, attack helicopters, air support, and naval gunfire, from the corps to the platoon Fire Direction Center. Integrating all fire support systems via a distributed processing

system creates a greater degree of tactical mobility for fire support units and allows missions to be planned and completed in less time.

ASAS

The All-Source Analysis System (ASAS) is an automated intelligence processing and dissemination system. It provides all-source intelligence fusion, allowing commanders and their staffs to gain timely and comprehensive understanding of enemy deployments, capabilities, and potential courses of action. It also provides operations security support, and aids in deception and counterintelligence operations. The ASAS allows sensor and other intelligence data to enter automatically into the all-source database and be available simultaneously at multiple analyst workstations.

Elements of ASAS provide seamless support to warfighters from theater to battalion levels:

- **At echelons above corps (EAC), it is tailored to meet unique theater requirements.**
- **At corps and division, it operates from the Analysis and Control Element, with sanitized intelligence reports and products available at the collateral level.**
- **At the maneuver brigade and battalion, the S-2 section employs ASAS workstations.**

CSSCS

The rapidly changing tactical situations typical of modern warfare demands rapid evaluation of force status. The Combat Service Support Control System (CSSCS) gives commanders easy access to the resource management, supply, and administrative information required to determine each unit's capability to carry out its mission. This system also allows commanders to conduct trade-off analyses and evaluate potential courses of action based on different logistical scenarios.

The CSSCS is designed to improve the planning and execution of CSS C^2 operations. A near real-time automated system, the CSSCS collects, processes, analyzes, and summarizes designated critical information from Standard Army Management Information Systems (STAMIS), including supply, maintenance, ammunition, transportation, personnel, financial, and medical. The CSSCS consolidates the data and transforms it into decision support information tailored for brigade, division, or corps commanders, as appropriate.

AMDWS

The Air and Missile Defense Work Station (AMDWS) is an integrated system of weapons, sensors, and C^2 elements that supports air defense weapons systems at the division-and-below levels. It protects maneuver forces, critical command posts, and CSSCS elements from low-altitude air attack. Integrating sensor inputs from various sources, the AMDWS provides early warning, targeting, and control information to Forward Air Defense and supported units. An area-of-interest air picture is developed, and air tracks are identified using automated and manual means. Threat tracks cause alerts, with fire units automatically cued to the targets.

The AMDWS integrates battlespace control measures in relationship to the air picture, which is displayed to fire units to enhance acquisition of hostile tracks by the weapons systems. At the corps level, the AMDWS is integrated with Patriot, HAWK, and future Medium Extended-Range Air Defense System (MEADS) systems into the comprehensive Air and Missile Defense (AMD) system. Within AMD, essential command, control, communications, and intelligence (C^3I) operational functions are distributed among Air Defense Tactical Operations Centers (ADTOCs), sensor nodes, and fire units throughout the depth of the battlefield. The ADTOC serves as the AMD link to ABCS and joint/allied C^3I systems. It processes and distributes the information required to direct AMD forces and synchronizes their actions with the maneuver commander's concept of operations.**k**


CALL

Appendix B
Glossary

- A -

AAR	after-action review
ABCS	Army Battle Command System
AD	air defense
ADTOC	Air Defense Tactical Operations Center
AFATDS	Advanced Field Artillery Tactical Data System
AGCCS	Army Global Command and Control System
AIT	advanced individual training
AMD	air and missile defense
AMDWS	air and missile defense workstation
ANCOC	Advanced Non-commissioned Officer's Course
AO	area of operations
ASAS	All-Source Analysis System
ASAS-Light	All-Source Analysis System-Light
AT	antitank
ATCCS	Army Tactical Command and Control System
AWE	Advanced Warfighter Experiment

- B -

BCC	brigade coordination cell
BDA	battle damage assessment
BDE	brigade
BN	battalion
BNCOC	Basic Non-commissioned Officer's Course
BOS	Battlefield Operating System
BPV	battlefield planning and visualization
BSB	brigade support battalion

- C -

C^2	command and control
C^3I	command, control, communications, and intelligence
C^4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CALL	Center for Army Lessons Learned
CBRIDS	Chemical, Biological, and Radiological-Integrated Detection System
CCIR	commander's critical information requirements
CECOM	Army Communications-Electronics Command

- C - (Cont)

CHATS	CI/HUMINT Automated Tool Set
CHIMS	CI/HUMINT Information Management System
CI	counterintelligence
CI&I Ops WS	Counterintelligence and Interrogation Operations Workstation
CIC	command information center
CI/HUMINT	counterintelligence/human intelligence
CISCO	Computer Information System Company
COA	course of action
COP	common operational picture
CP	command post
CTC	combat training center
CTIL	commander's tracked items list
CTTL	centralized training task list
CTP	common tactical picture
CSS	combat service support
CSSCS	Combat Service Support Control System

- D -

DBST	Digital Battlestaff Sustainment Trainer
DOCEX	document evacuation and exchange
DS	direct support
DTF	digital training facility
DTG	date-time group

- E -

EAC	echelons above corps
EEFI	essential elements of friendly information
EMPRS	Enroute Mission Planning and Rehearsal System
ELO	enabling learning objective
ES	electronic support

- F -

FBCB2	Force XXI Battle Command Brigade and Below
FM	frequency modulated
FSE	fire support element
FSO	fire support officer
FTX	field training exercise

- G -

GCCS	Global Command and Control System
GCS	ground control station
GS	general support
GSR	ground surveillance radar

- H -

HUMINT	human intelligence

- I -

IAV	Interim Armored Vehicle
IBCT	Interim Brigade Combat Team
IDIV	Interim Division
IDM-T	Information Dissemination Management –Tactical
IIR	initial impressions report
IMINT	imagery intelligence
INC	interface network controller
IOBC	Infantry Officer's Basic Course
IOC	initial operating capability
ISR	intelligence, surveillance, and reconnaissance
ITRT	Individual Tactical Reporting Tool

- J -

JANUS	Joint Army/Navy Uniform Simulation
JCF	Joint Contingency Force
JRTC	Joint Readiness Training Center
JSTARS	Joint Surveillance Target Attack Radar
JTF	Joint Task Force

- L -

LAN	local area network
LAV	Light Armored Vehicle
LOC	line of communication
LRS	launch and recovery station

- M -

MASINT	measurement and signature intelligence
MCS	Maneuver Control System
MCS-Light	Maneuver Control System-Light
MDMP	military decision-making process
MDR	multidimensional reconnaissance
MEADS	Medium Extended Air Defense System
METL	mission-essential task list
MOOTW	military operations other than war
MOUT	military operations in urbanized terrain
MSE	mobile subscriber equipment
MSL	mean sea level
MSR	main supply route
MSTF	mission support training facility
MTOE	modified table of organization and equipment
MTW	Major Theater War

- N -

NAI	named area of interest
NBC	nuclear, biological, chemical
NCA	National Command Authority
NET	new equipment training
NT	new technology
NTDR	Near-Term Digital Radio

- O -

O&O	organizational and operational concept
OMT	operational management team
OPFOR	opposing forces

- P -

POI	program of instruction

- R -

R4R	ready for reproduction
recce	reconnaissance
REMBASS	Remotely Monitored Battlefield Sensor System
RSTA	reconnaissance, surveillance, and target acquisition
RTO	radio/telephone operator
RVT	remote video terminal
RWS	remote workstation

- S -

SA	situational awareness
SAEDA	Subversion and Espionage Directed Against the U.S. Army
SALUTE	size, activity, location, unit, time, and equipment
SAMRC	Saudi Arabian Mechanized Rifle Company
SIGINT	signal intelligence
SIMEX	simulation exercise
SINCGARS	Single-Channel Ground and Airborne Radio System
SITREP	situation report
SLC	Senior Leader's Course
SME	subject matter expert
SOP	standing operating procedure
SSC	smaller-scale contingency
STAMIS	Standard Army Management Information System
STCCS	Strategic Theater Command and Control System
SU	situational understanding

- T -

TAC	tactical command post
TAC HUMINT	tactical human intelligence
TACLAN	tactical local area network
TACREP	tactical report
TEP	tent entry panel
TIM	Tactical Internet Monitor
TLC	Tactical Leader's Course
TLO	terminal learning objective
TOC	tactical operations center
TOW	tube launched, optically tracked, wire-guided
TSM	TRADOC System Manager
TTP	tactics, techniques, and procedures
TUAV	Tactical Unmanned Aerial Vehicle

- U -

UAV	Unmanned Aerial Vehicle
UCOFT	unit conduct of fire trainer
UNIX	Uniplexed Information and Computer System

- W -

WLAN	wireless local area network
WMD	weapons of mass destruction